

Sugar Land Pedestrian and Bicycle Master Plan

A Vision for the Future of Walking and Biking in Sugar Land!



Task Force Presentation and Discussion – Meeting #3

August 20, 2012

Sugar Land Pedestrian and Bicycle Master Plan

Transportation and Long-Range Planning



Updated Goals

1. Create a world class **network** of facilities for walking and bicycling throughout Sugar Land that is **actively utilized**.
2. Plan for the **development of a balanced system** that provides facility options **for all cycling skill levels** from all parts of the City.
3. Along major roadways in the City, **emphasize off-street facilities**, but if feasible, also provide on-street facilities for experienced riders.
4. **Measurably increase** the use of the network for **both transportation and recreational uses** as it is implemented.
5. Provide **a variety of off-street opportunities** for all types of activities, both active and passive.
6. **Maintain compatibility with adjacent private properties** – create trails that respect and preserve the rights of adjacent homeowners but that provide access to as many residents of the City as possible.
7. **Actively seek partnerships** with other governmental entities, homeowner associations, private property owners and developers to expedite and enhance the creation of the network envisioned by this plan.
8. Identify ways in which to **accelerate the development of the network** , so that much of the system is in place within a decade.

Plan is both short and long term in nature

Both short and long term facility routes are shown.

- **Short term implementation** – facilities that can be developed in a relatively short period of time (say within 5 years)
- **Longer term implementation** – facilities and actions that may take longer or that may require significant adjustments to existing facilities



Key Facility Types



BIKE LANES...

- Bicycle Lanes – where appropriate, bicycle lanes that are a minimum of five (5) feet in width (but where deemed preferable six (6') wide) will be considered. Along some streets, where pavement widths permit, buffered bicycle lanes may be considered as well. The striped buffering area will vary from 18" to 24" wide.



Where: Streets with lower traffic volumes and speeds

Advantages: Very inexpensive, easy to implement in many areas with no other option

Disadvantages: Some riders may not be comfortable near cars

Cost: Very low





COMFORT or BUFFERED BIKE LANES...

BBL



Where: Streets with sufficient pavement width	Advantages: Very inexpensive, easy to implement, adds extra buffering from traffic, more appealing to many average riders	Disadvantages : Requires wider pavement width	Cost: Very low
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Sugar Land Pedestrian and Bicycle Master Plan

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SIDEPATH IN SUGAR LAND (ADJACENT TO ROADWAY)

SP

- Sidepaths – a facility that parallels a street and that is intended for both pedestrian and bicycle usage will be referred to as a sidepath. Sidepaths must be a minimum of ten (10) feet in width, especially in cases where bicyclists and pedestrians are anticipated to be both using the facility. In some instances where use is more occasional, an 8' width may be considered. Where existing sidewalks are currently in place, a preferred ultimate sidepath width will be indicated in the plan update, and a recommendation as to timing and prioritization of that widening will be included. Note that some corridors, such as University, are key corridors and may well need to be updated at an earlier time.
- Note - five or six foot wide sidewalks will continue to be considered as pedestrian-only facilities.

Where: Streets with adequate parkway width

Advantages: More appealing to novice or young riders, can connect areas w/o greenbelt corridors

Disadvantages: High cost, less appealing to experienced riders, less predictability at intersections

Cost: High

SHARED-USE PATH (OFF-STREET)



- Shared Use Paths – off-street facilities (commonly referred to as trails) are a third facility type. As in the case of sidepaths, an eight (8) minimum width will be considered, but a ten foot (10') width is preferred where pedestrians and bicyclists are anticipated to be mixing.

Where: Drainage, utility or greenbelt corridors

Advantages: attractive for riders of many skill levels, can enhance connectivity citywide

Disadvantages: high cost, requires suitable corridor concern at street crossings

Cost: High



SHARED LANE MARKINGS

- Shared Use Lane Markings (sharrows) – in certain instances with low traffic volumes and vehicular speeds, shared lane markings, commonly referred to as “sharrows,” may be considered. These indicate the preferred location of the bicycle in the lane, and also serve to alert vehicles as to the potential presence of bicycles.

SLM



Where: Streets with appropriate volumes/speeds, and w/o pavement width for bicycles lanes

Advantages: Very inexpensive, easy to implement in many areas with no other option

Disadvantages: Some riders may not be comfortable near cars

Cost: Very low

2012 AASHTO Considerations for Bikeway Types

Facility Type	Traffic Volume	Where to Consider Using	Vehicular Design Speed
No Special Facility	Low volumes, under 1,000 ADT	Neighborhood or local streets	Vehicular speeds may vary depending on whether rural or urban
Shared Lane Marking	Varies, but typically volumes	Use on streets with potential bicycle usage but insufficient space for a facility	Most jurisdictions use with speeds 35 mph or less
On-Street Bicycle Lanes (Buffered Lane is used where pavement width is available)	Varies – AASHTO indicates that traffic speed is “generally more important” than volume	Collectors or Arterials with potential for bicycle usage and which serve as important linkage routes	Typically on streets with design speed at 25 mph or higher
Sidepaths (no specific volume and speed criteria in AASHTO)	NA, but higher volumes may indicate preference for sidepath	Generally where pavement width does not allow for adequate bicycle lane	Varies, but considered on streets with higher volumes and speeds

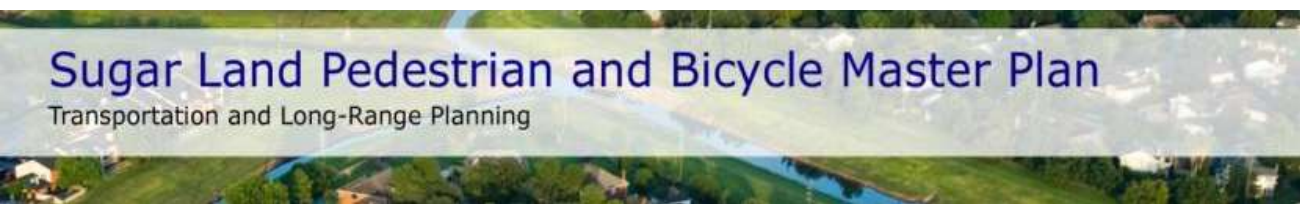
Other Potential Key Actions

- **Road Diet** – one or more lanes (typically only one) is removed to provide space for bicycle lanes. Done where existing and projected future traffic volumes are adequately served without the lane that is removed.
- **Lane Diet** – lane widths are reduced to accommodate re-striping for a bicycle lane



Northern Sector of the City (North of Hwy 90A)

Note – more than one option may be shown on corridors where alternatives can be considered.



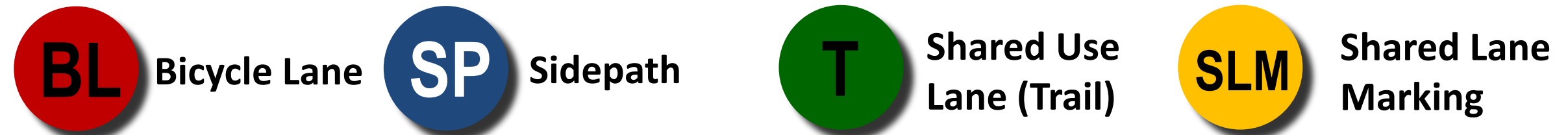
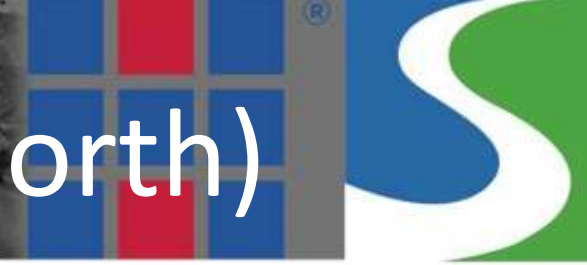
Voss Road (looking East at Kempner H.S.)



- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



Burney Road South of Voss (looking North)



Background Image Source: Google.com - StreetView

Burney Road (looking south at Jess Pirtle)



BL Bicycle Lane

SP Sidepath

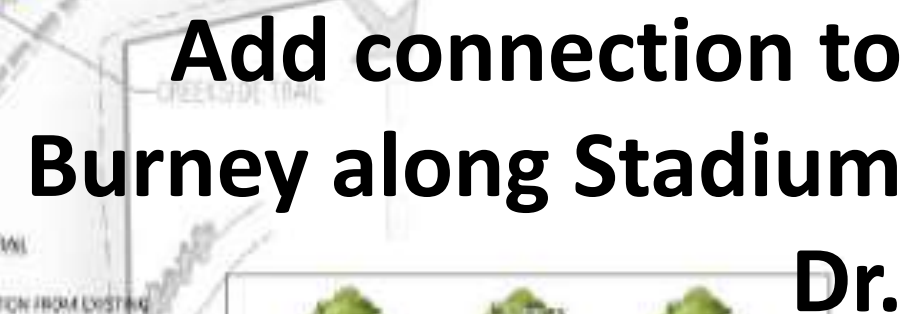
T Shared Use Lane (Trail)

SLM Shared Lane Marking



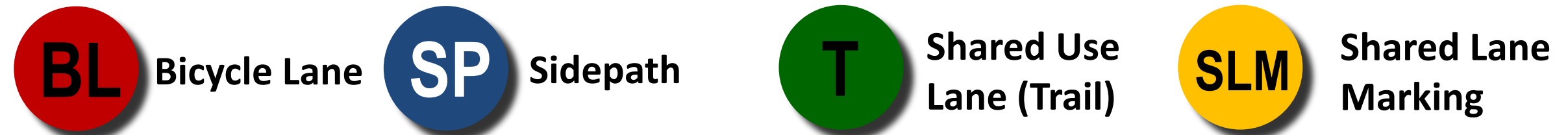
Background Image Source: Google.com - StreetView

© 2012 Google - Report a problem - Image Date: March 2011



T B G

Jess Pirtle (looking east near Burney)



Background Image Source: Google.com - StreetView



7th Street



BL

Requires reconfiguration to two or three lane striping with bicycle lanes



Greenway Drive (looking S. at Drainage Channel)

- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



Background Image Source: Google.com - StreetView



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Transportation and Long-Range Planning





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West Airport Road (looking east past Mason St.)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

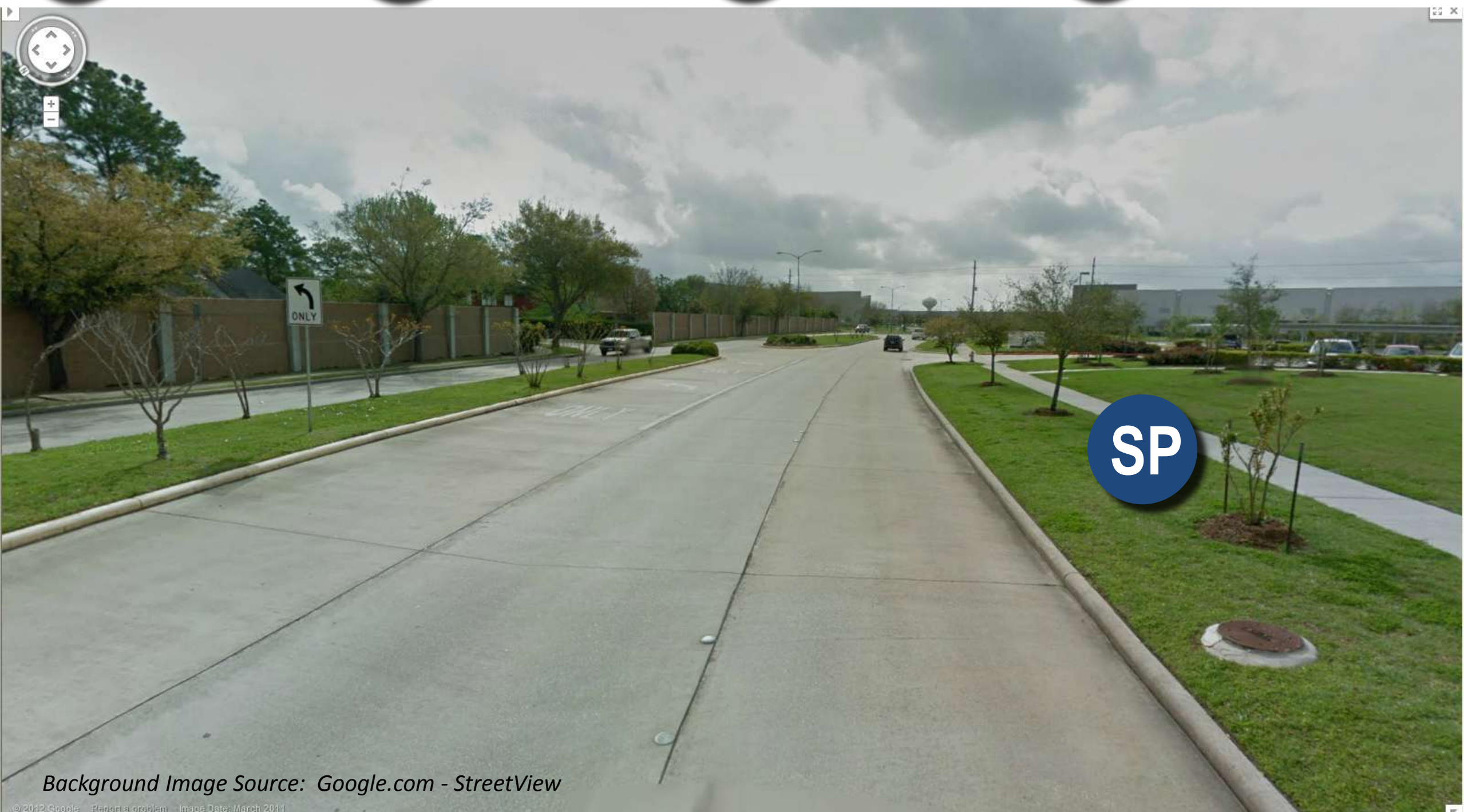
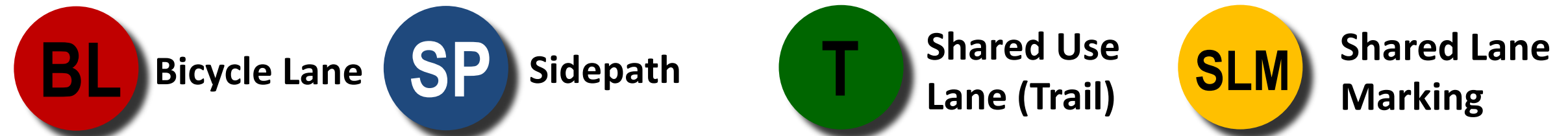
Shared Lane
Marking



Sidepath may require removal or
relocation of landscaped area.

Background Image Source: Google.com - StreetView

W. Airport Blvd. (looking east, past Alston)



Eldridge (looking S. near Neal Dr.)



BL Bicycle Lane

SP Sidepath

T Shared Use
Lane (Trail)

SLM Shared Lane
Marking



Background Image Source: Google.com - StreetView



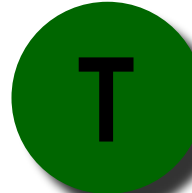



Business Park Area







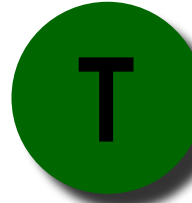

Gillingham Lane

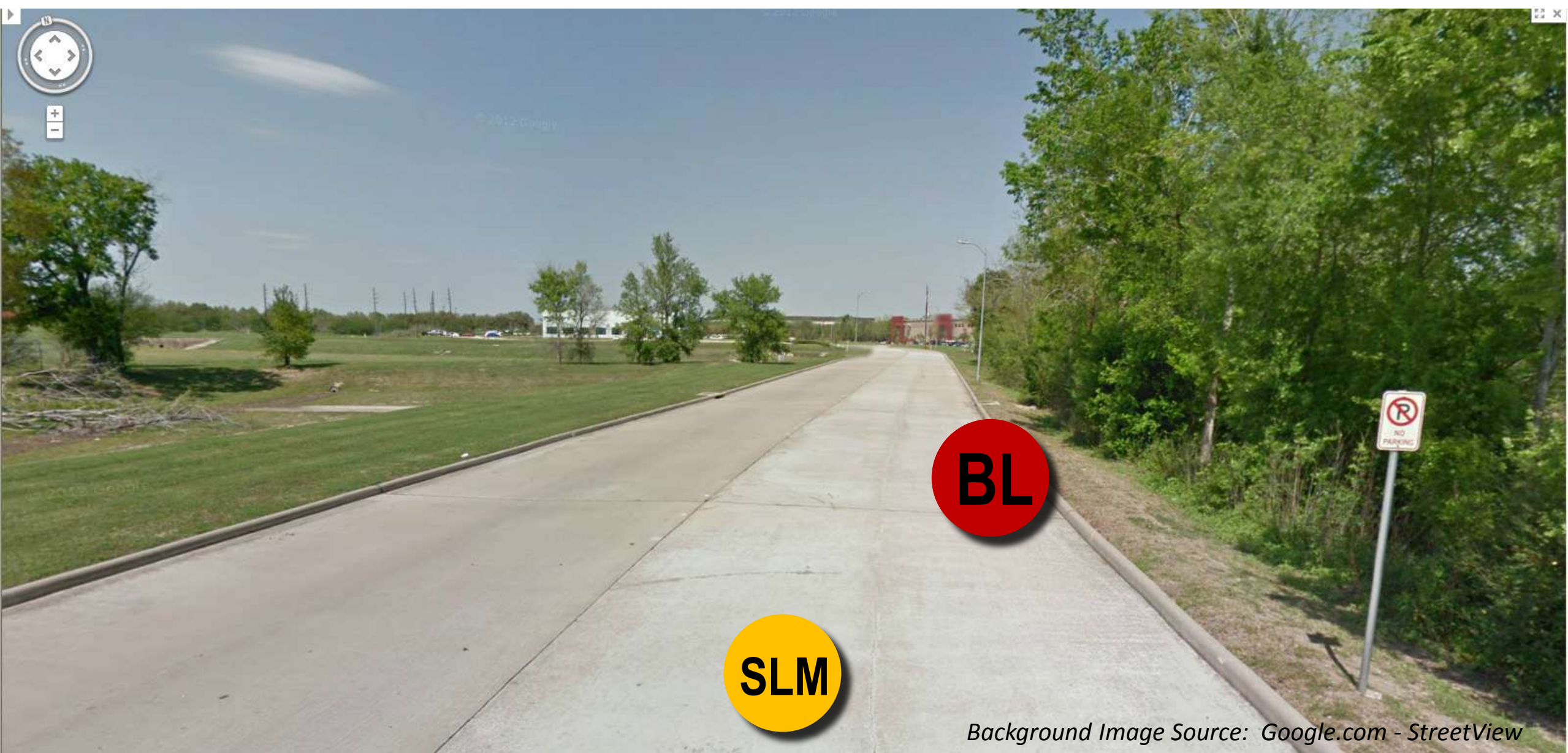
-  **BL** Bicycle Lane
-  **SP** Sidepath
-  **T** Shared Use Lane (Trail)
-  **SLM** Shared Lane Marking





Gillingham Lane

-  **BL** Bicycle Lane
-  **SP** Sidepath
-  **T** Shared Use Lane (Trail)
-  **SLM** Shared Lane Marking





Gillingham Lane

- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



Industrial (S. of W. Airport looking N.)



BL Bicycle Lane

SP Sidepath

T Shared Use
Lane (Trail)

SLM Shared Lane
Marking



Background Image Source: Google.com - StreetView

Industrial (N. of Jess Pyrtle looking N.)



- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



Industrial (N. of Hwy 90A looking North)



Background Image Source: Google.com - StreetView

Jess Pirtle (looking East past Eldridge)

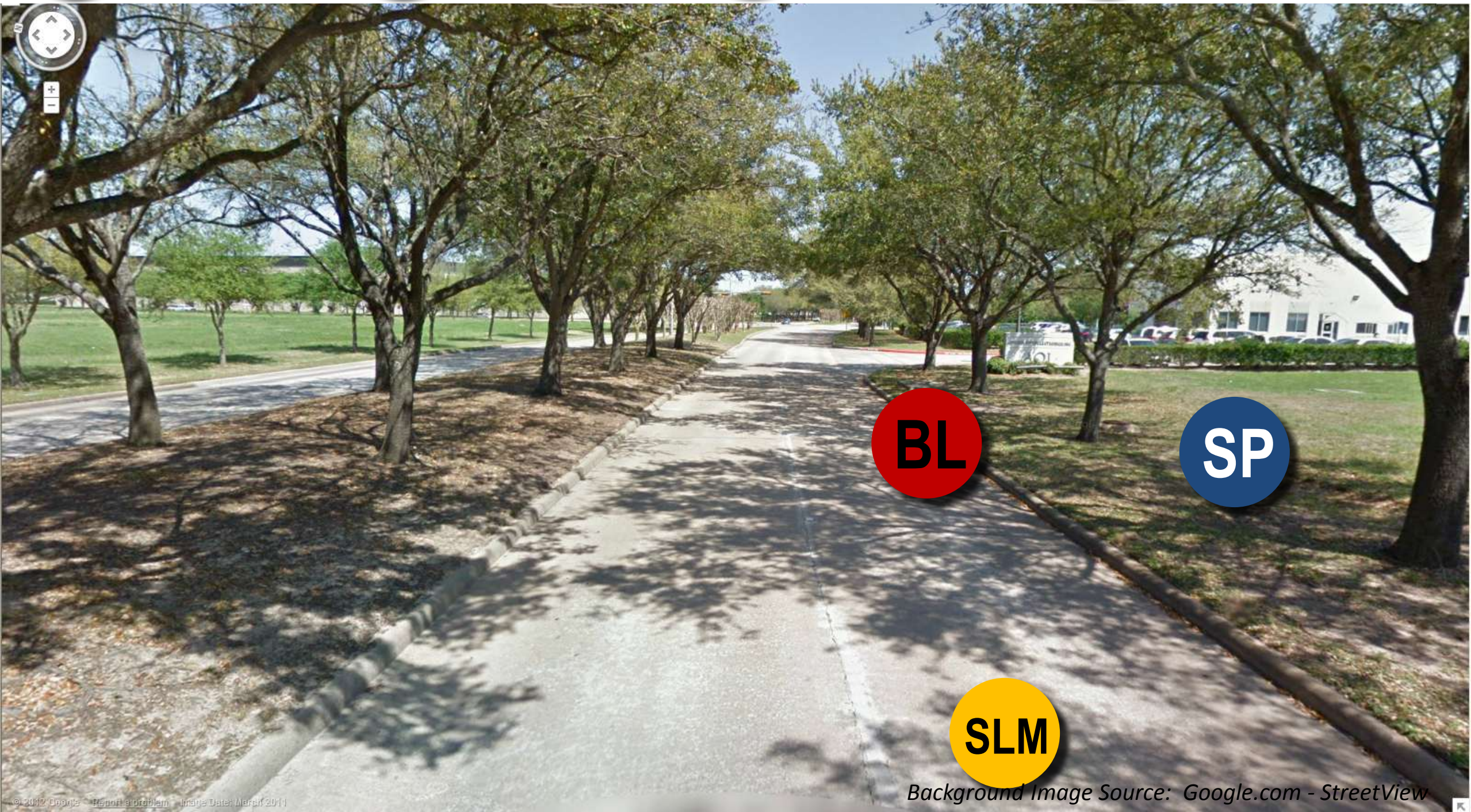


BL Bicycle Lane

SP Sidepath

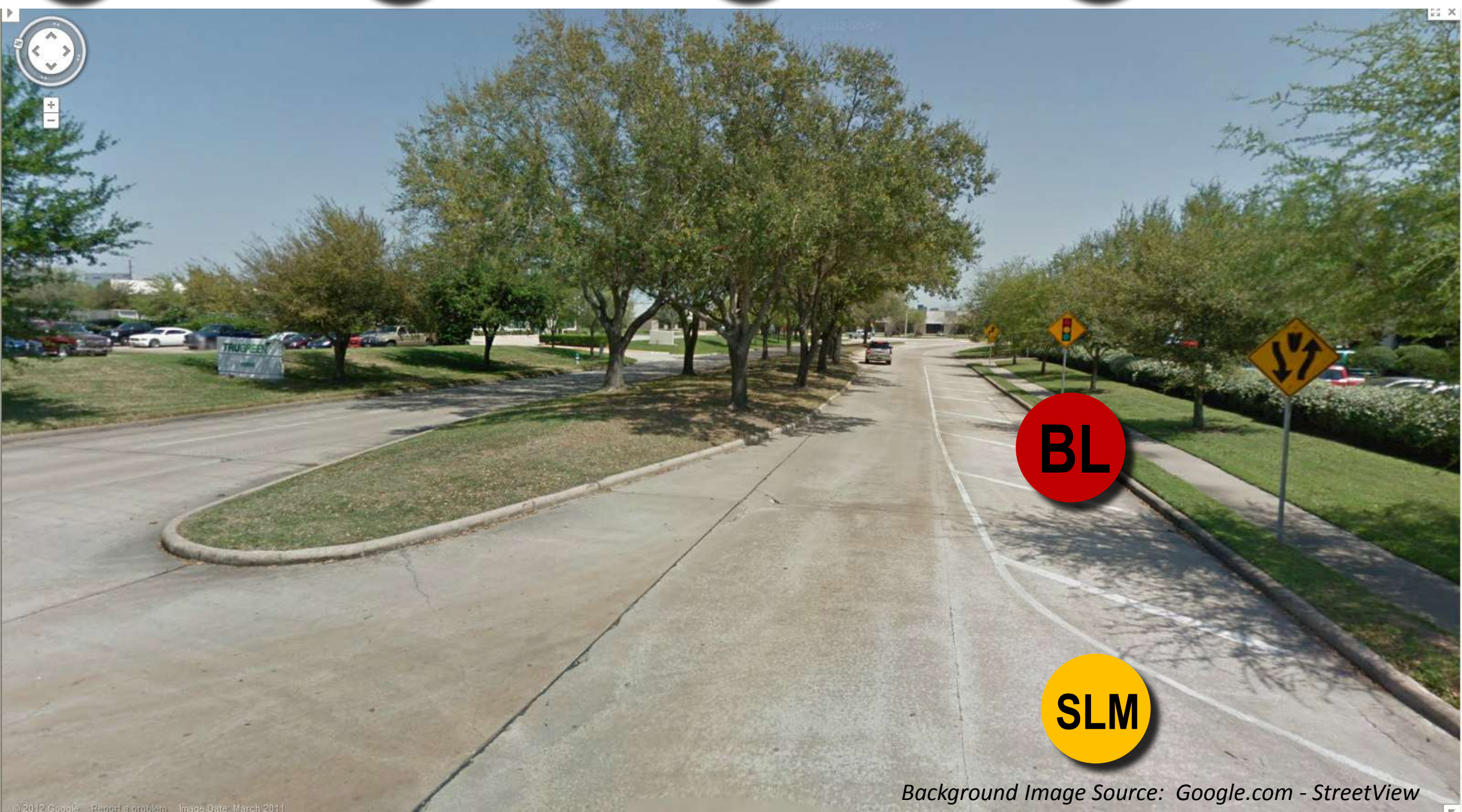
T Shared Use Lane (Trail)

SLM Shared Lane Marking



Background Image Source: Google.com - StreetView

Jess Pirtle (looking East before Industrial)



Background Image Source: Google.com - StreetView

Julie Rivers Dr. (looking North from Dairy Ashford)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

Shared Lane
Marking



BL

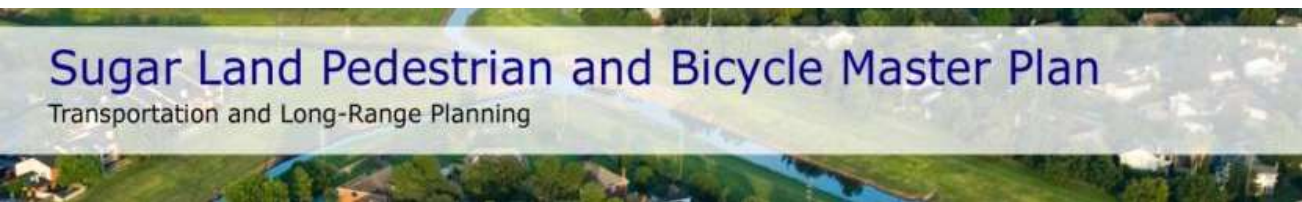
SLM

Background Image Source: Google.com - StreetView



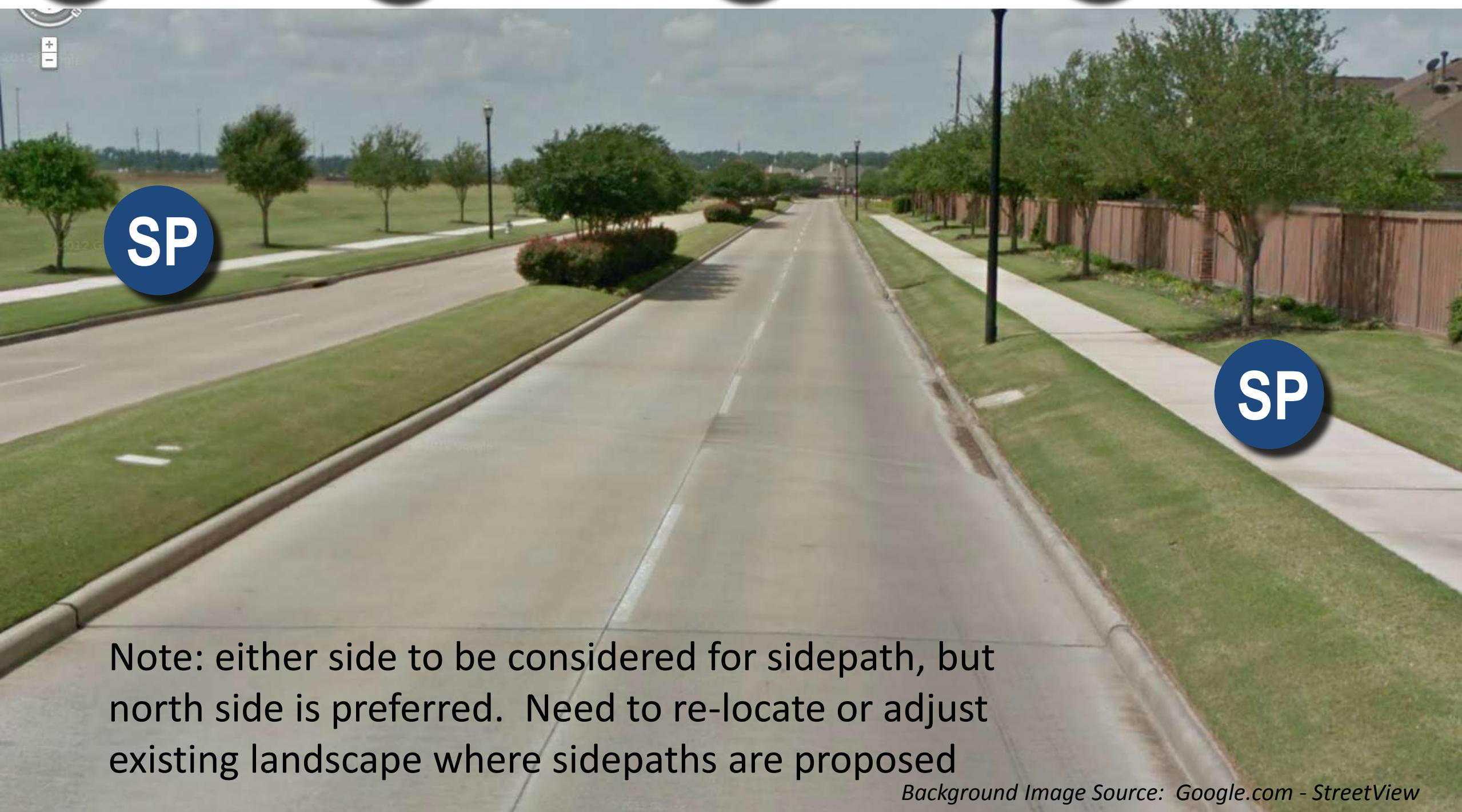
Western Sector of the City (West of Ditch H and South of Hwy 90A)

Includes Telfair, New Territory,
Greatwood



Telfair Blvd. (W. of University Blvd.)

4 Lane Divided



Note: either side to be considered for sidepath, but north side is preferred. Need to re-locate or adjust existing landscape where sidepaths are proposed

Background Image Source: Google.com - StreetView

Wescott (S. of Meadowcroft looking south)

2 Lane Undivided



BL Bicycle Lane

SP Sidepath

T Shared Use Lane (Trail)

SLM Shared Lane Marking



Wescott (E. of New Territory Blvd. — looking south) 4 Lane Divided



BL Bicycle Lane

SP Sidepath

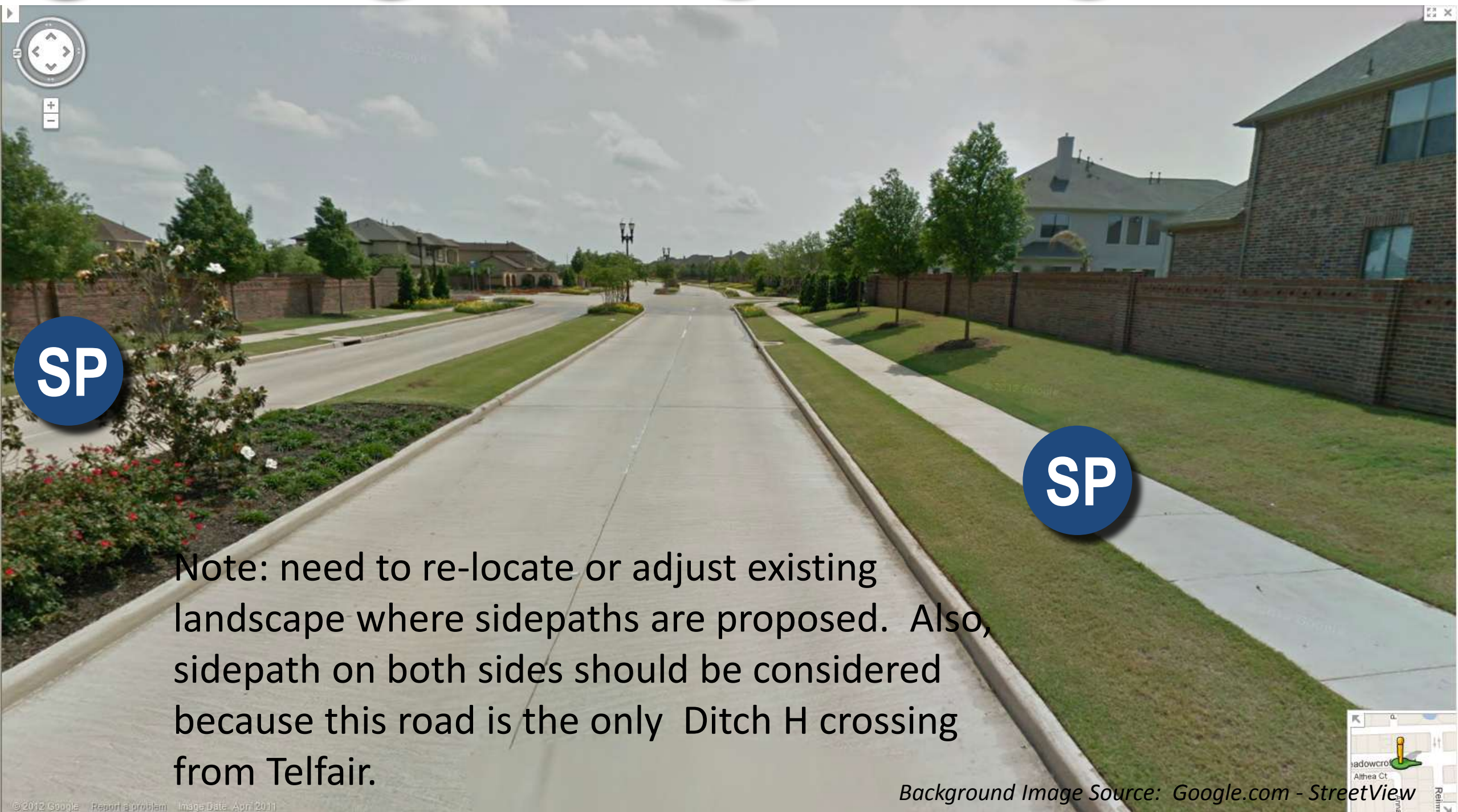
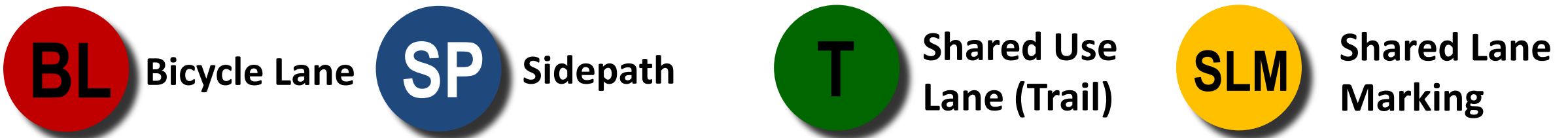
T Shared Use
Lane (Trail)

SLM Shared Lane
Marking



Buffered bike lane would remove
one vehicular lane in each direction

Meadowcroft (E. of University Blvd.)



Note: need to re-locate or adjust existing landscape where sidepaths are proposed. Also, sidepath on both sides should be considered because this road is the only Ditch H crossing from Telfair.

Background Image Source: Google.com - StreetView

Meadowcroft (E. of Wescott Blvd.)

4 Lane Undivided



BL Bicycle Lane

SP Sidepath

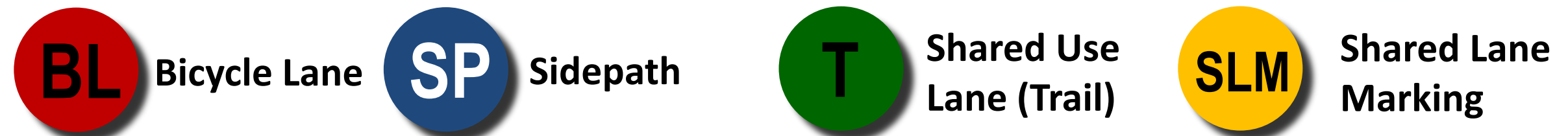
T Shared Use Lane (Trail)

SLM Shared Lane Marking

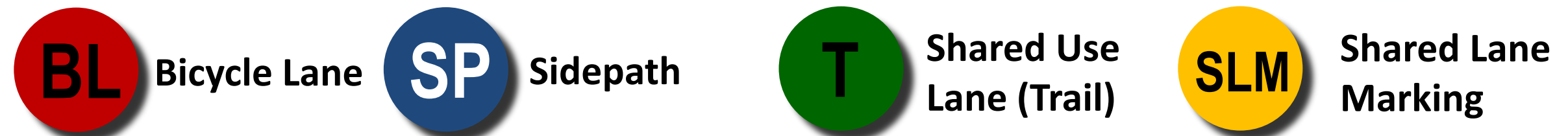


Chatham (N. of Telfair Blvd.)

2 Lane Undivided



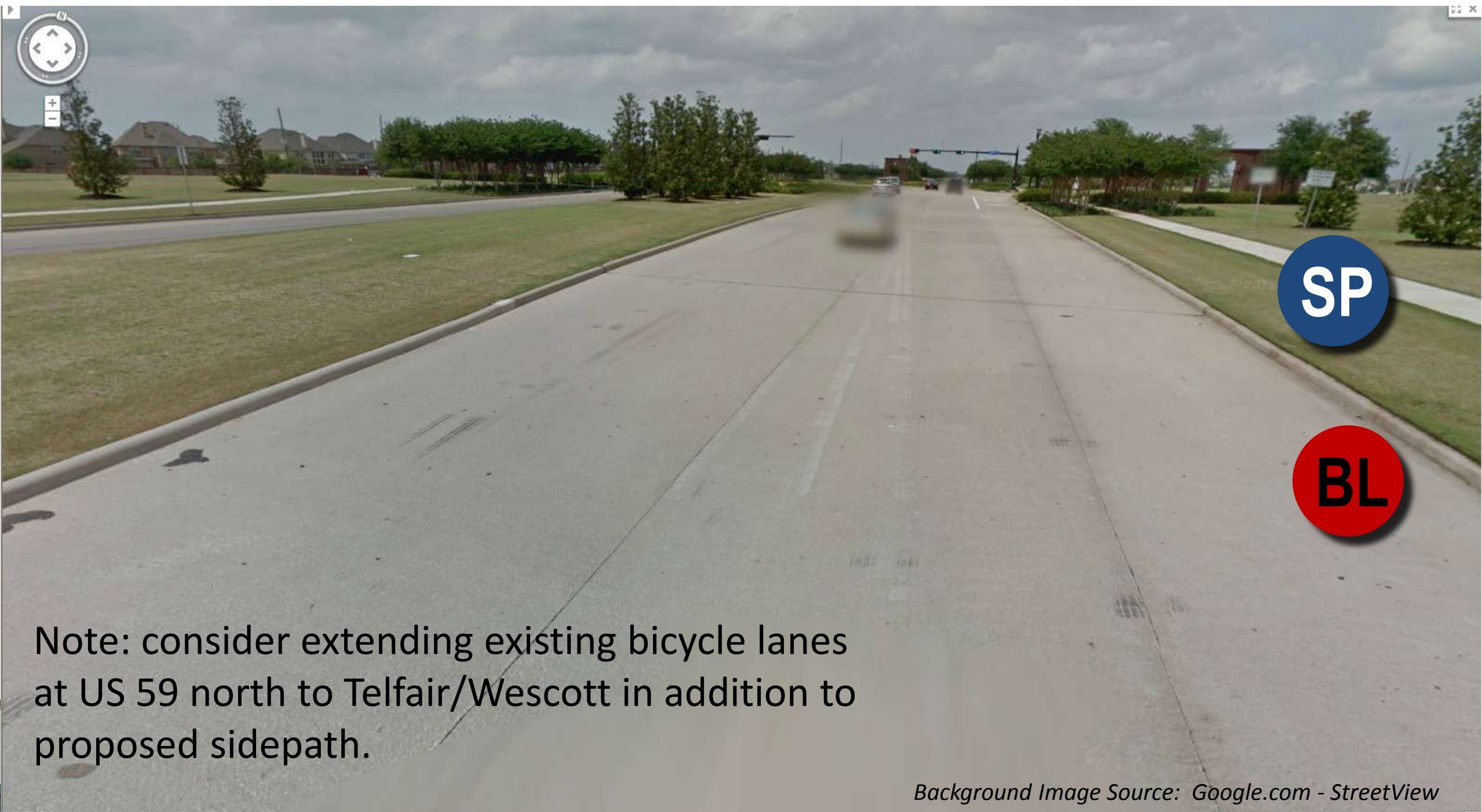
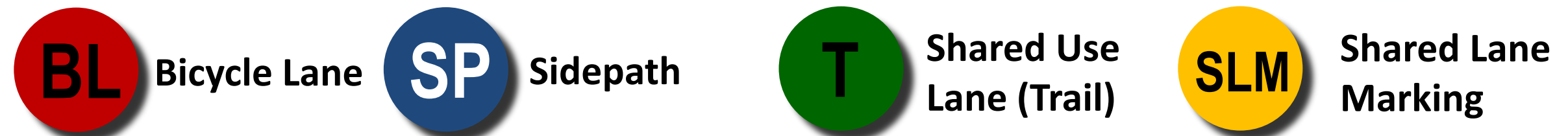
Chatham (north of New Territory Blvd.)



Note: On-street parking will be prohibited with bicycle lanes.

Background Image Source: Google.com - StreetView

University (North of US 59)



Note: consider extending existing bicycle lanes at US 59 north to Telfair/Wescott in addition to proposed sidepath.



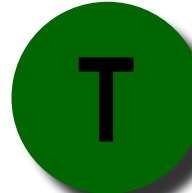

University looking N. (at Telfair Lakes)



- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



New Territory Blvd. (looking West near Chatham)

-  **BL** Bicycle Lane
-  **SP** Sidepath
-  **T** Shared Use Lane (Trail)
-  **SLM** Shared Lane Marking



New Territory Blvd. (west of Homeward Way looking east)

- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking







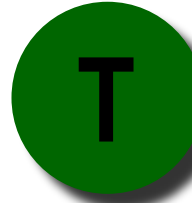

North Central Sector of the City (North of US 59 and South of Hwy 90A)

Includes First Colony and Commonwealth



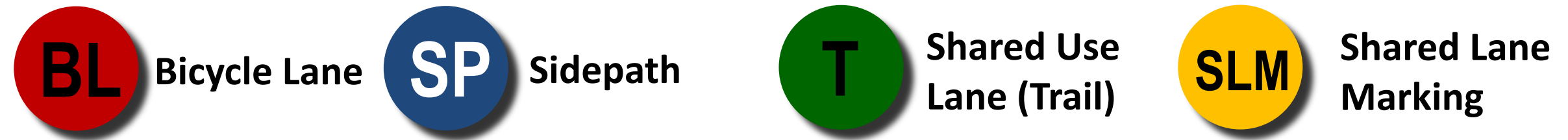


Bayview Drive

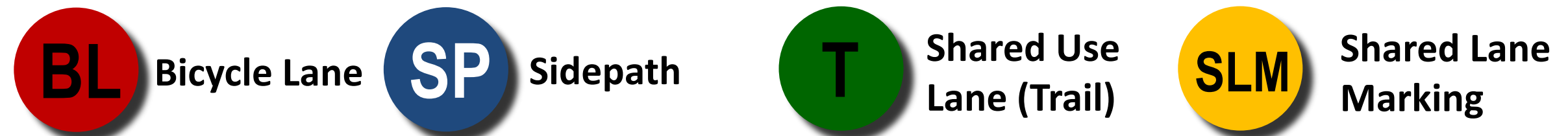
-  **BL** Bicycle Lane
-  **SP** Sidepath
-  **T** Shared Use Lane (Trail)
-  **SLM** Shared Lane Marking



Oyster Creek at Hwy 90A (looking north)



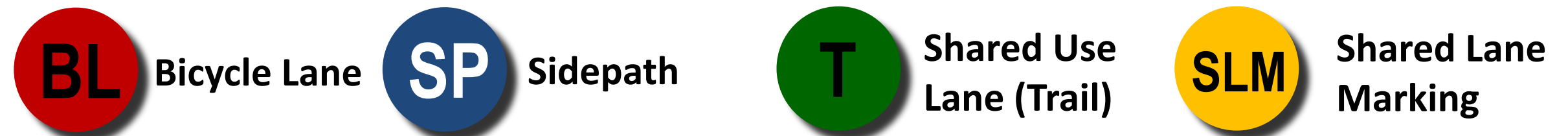
Sugar Lakes Drive looking South



Note: Consider bicycle lanes if road diet is possible (change to 1 lane each way)

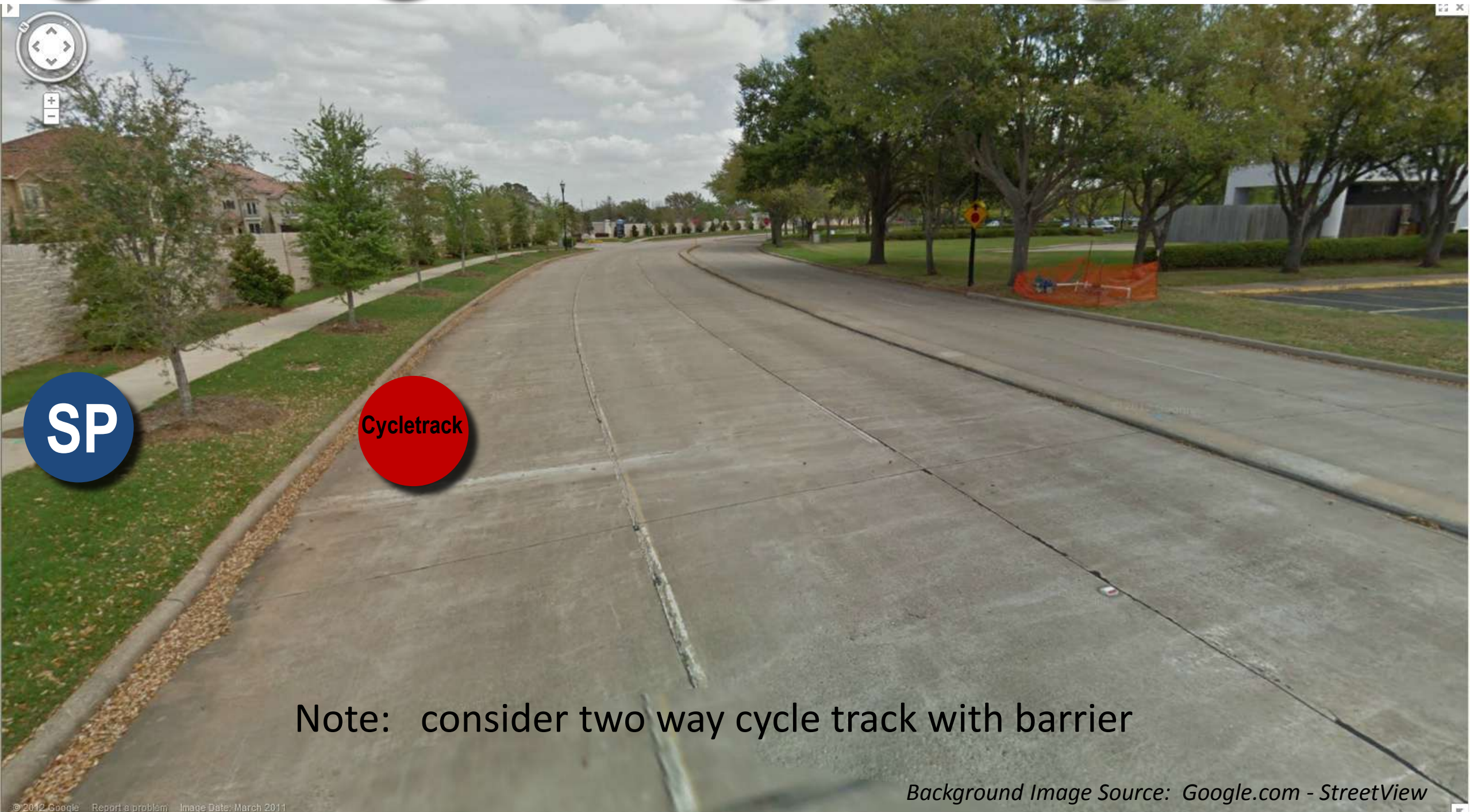
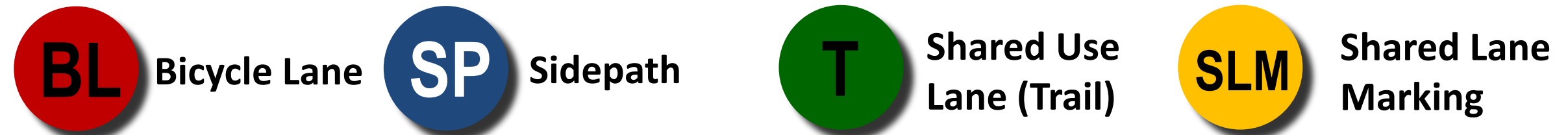
Background Image Source: Google.com - StreetView

Creekbend (W. of Creekway)



Background Image Source: Google.com - StreetView

Creekbend looking East (At Fluor)



Note: consider two way cycle track with barrier

Background Image Source: Google.com - StreetView



Lake Pointe Parkway

- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



Sugar Creek Blvd. (looking E. at Wedgewood)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

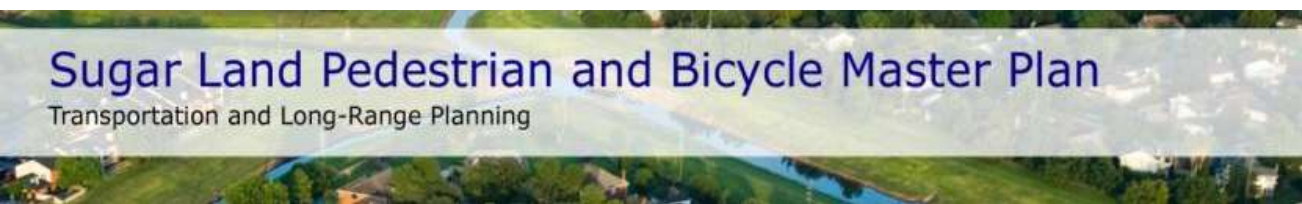
Shared Lane
Marking





South Central Sector of the City (South of US 59)

Includes First Colony and Commonwealth



Sugar Land Pedestrian and Bicycle Master Plan

Transportation and Long-Range Planning



Lexington looking west towards Williams Trace



Insufficient room for sidepath. Wide sidewalk only

Williams Trace looking N. at Highlands



Bicycle Lane



Sidepath



Shared Use
Lane (Trail)



Shared Lane
Marking

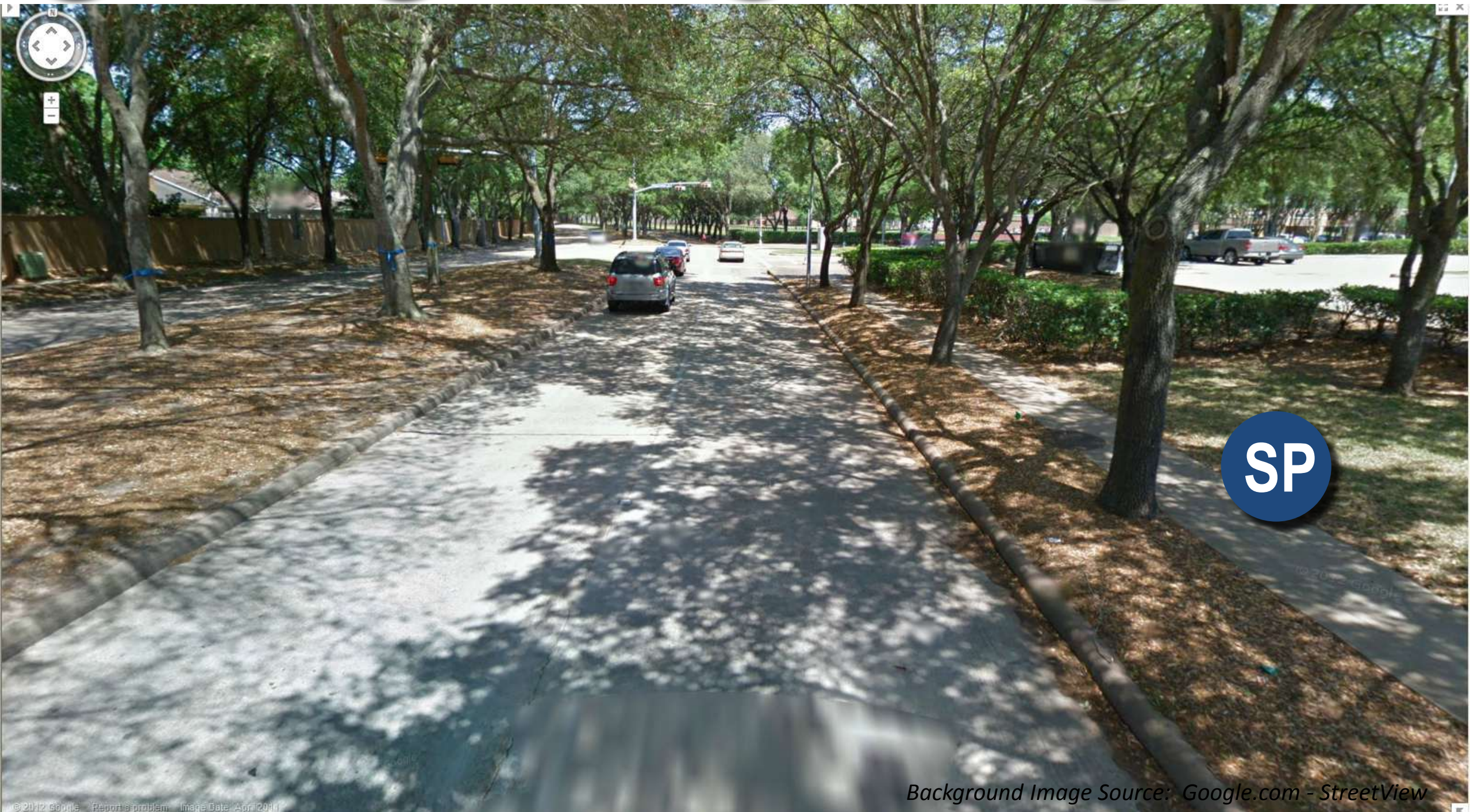
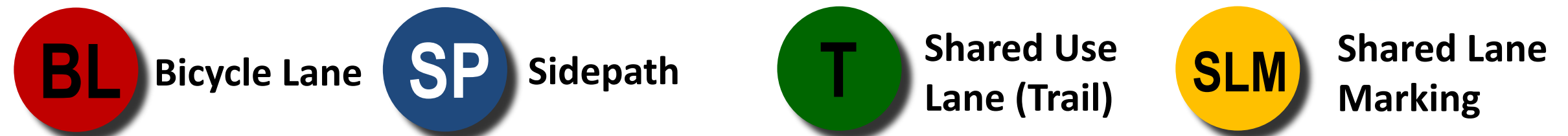


Note: sidepath not feasible until road is rebuilt. Note bicycle rider in intersection.

Background Image Source: Google.com - StreetView

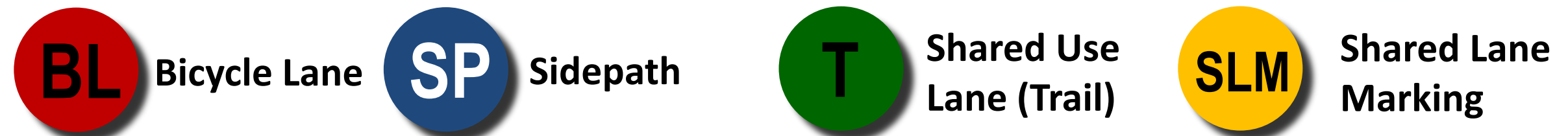


Williams Trace looking N. at Edgewater



Background Image Source: Google.com - StreetView

Edgewater between Williams Trace & Settlers Way

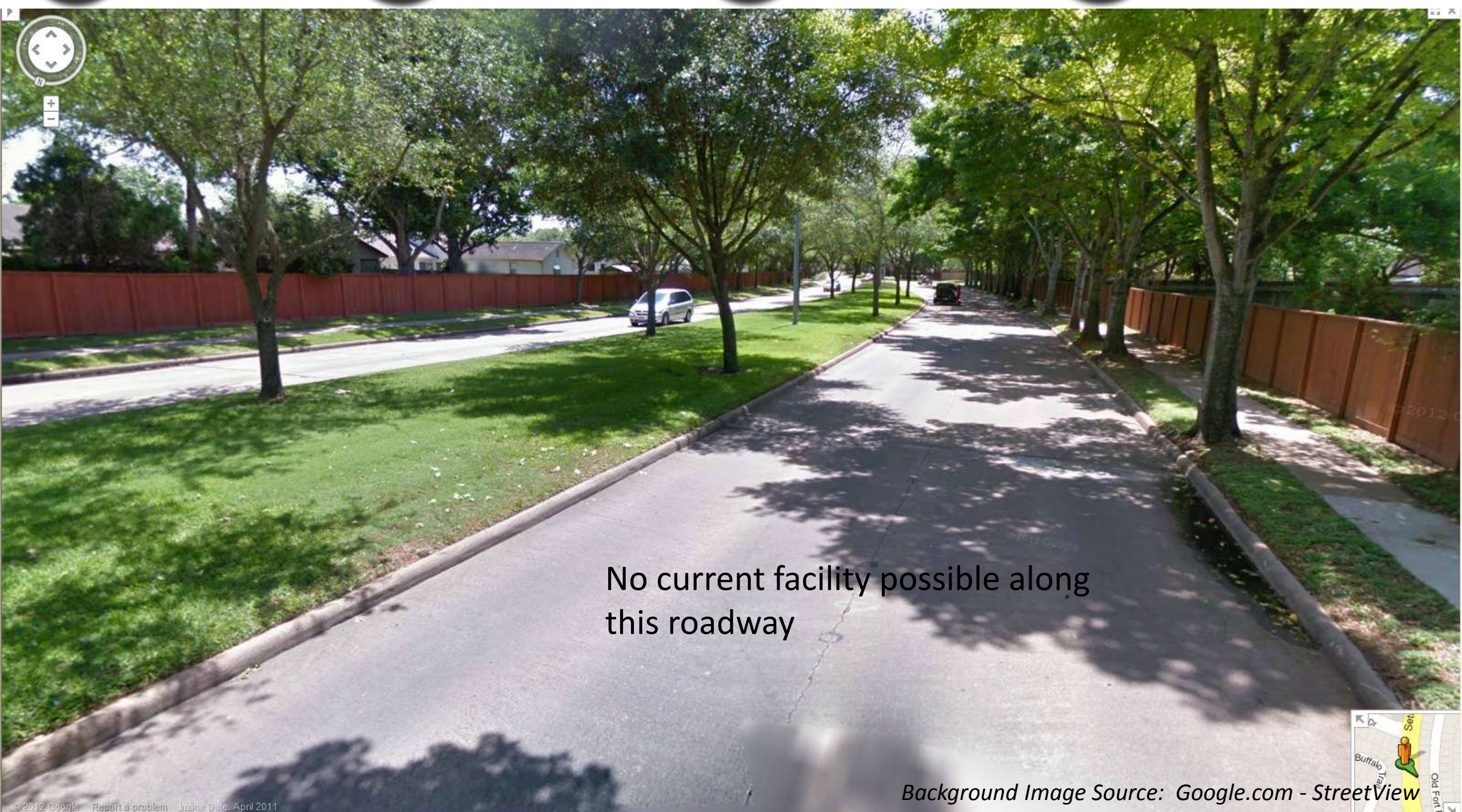
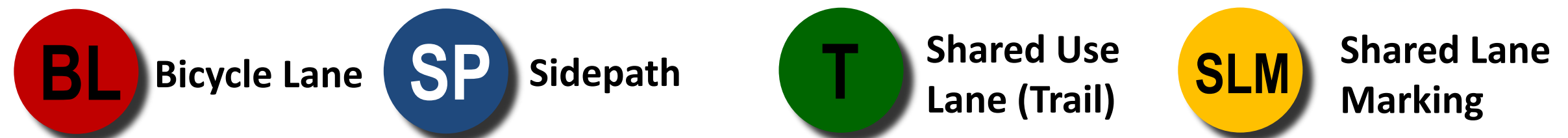


Settlers Way looking South near Waters Way Dr



Significant volumes, no on street facility recommended. Insufficient space for sidepath.

Settlers Way looking S. (S. of Hwy. 6 and Flintwood)





Lost Creek Blvd. looking E.



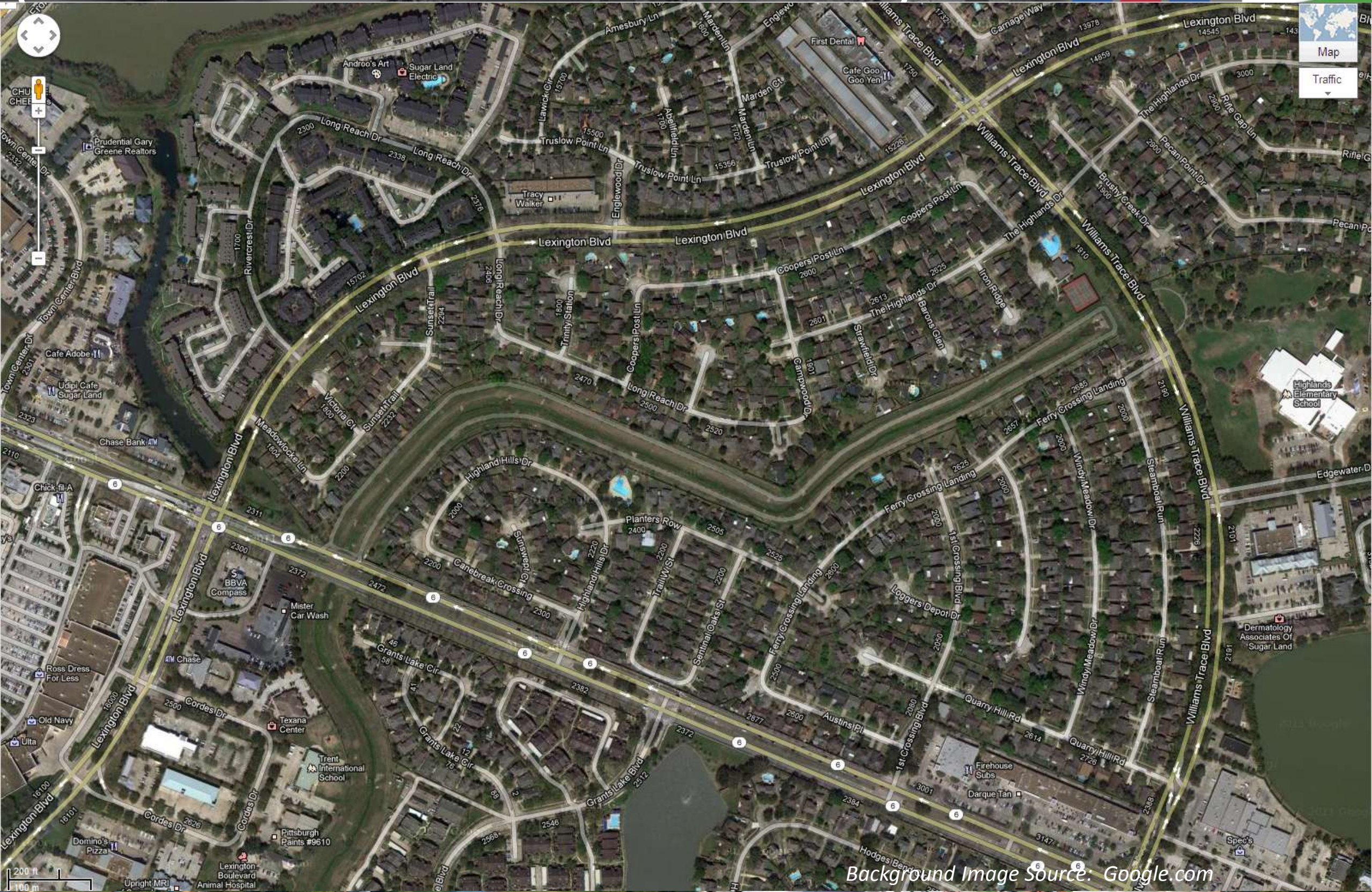
Sugar Mill Drive



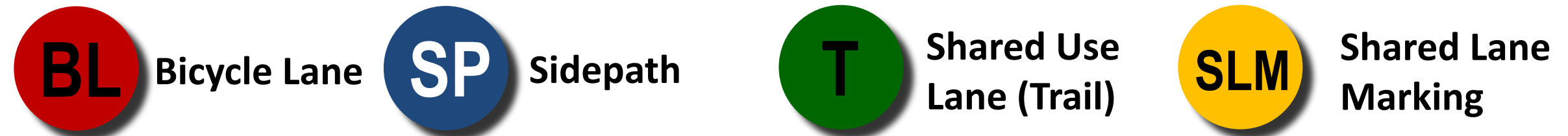
Note: Key connection between trail segments near corridor where backyards consume vital power line corridor.

Background Image Source: Google.com - StreetView

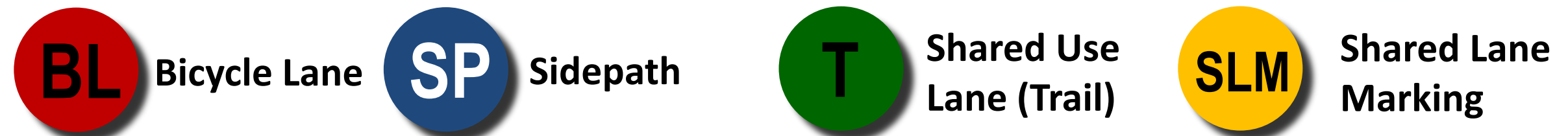
Trail Connection from Williams Trace to Hwy 6 (illustrates lack of access to trail)



Williams Grant near Wagon Run



Austin Pkwy. S. of Hwy 6 (looking North)



Note: Requires some landscaping and parking lot reconfiguration

Background Image Source: Google.com - StreetView

Dulles (Looking S., S. of Ave. E.)



Note: mid-block crossing to connect Missouri City trail to Sugar Land trail on north side of ditch. Requires ped. bridge or median narrowing to allow pedestrian facility. Ultimately, trail recommended along south side of ditch as well.

Background Image Source: Google.com - StreetView

Dulles N. of Cartwright and Hwy. 6 (looking N.)

BL Bicycle Lane

SP Sidepath

T Shared Use Lane (Trail)

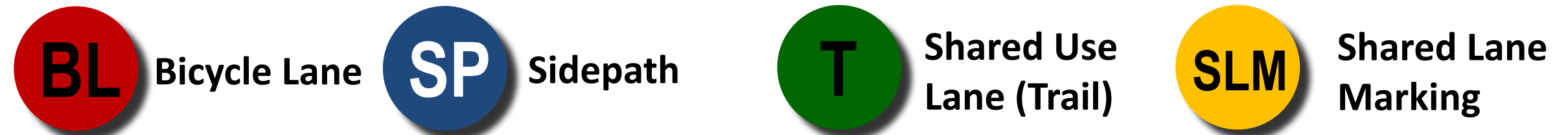
SLM Shared Lane Marking



SP
(where feasible)

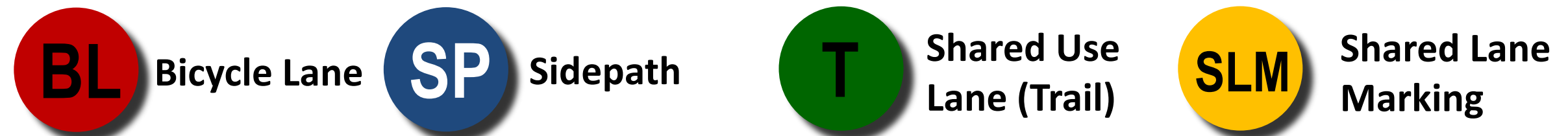
Background Image Source: Google.com - StreetView

Dulles S. of Lexington, looking North



Background Image Source: Google.com - StreetView

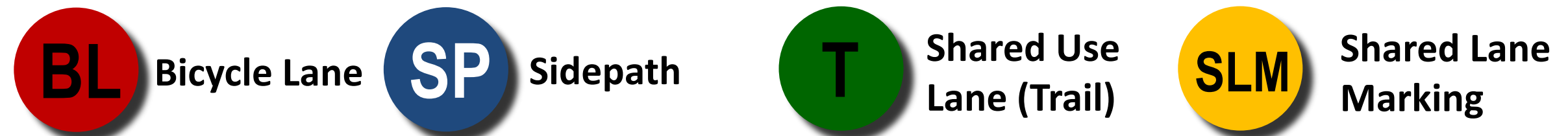
Colonist Park Drive (S. of Lexington, near Highlands Elementary)



Note: bicycle lanes here may require elimination of on-street parking. However, homes front to side streets, resulting in only infrequent on-street parking.

Background Image Source: Google.com - StreetView

Hwy 6, looking E. (East of Grants Lake Blvd.)



Note: sidepath installation would impact existing landscape.
Could consider barrier to allow widening towards traffic lanes.

Knightsbridge (looking South near Bradford Cir.)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

Shared Lane
Marking

Buffered bike lane would remove
one vehicular lane in each direction

BL

SP

BBL

Note: strongly recommend road diet to 1 lane each
direction. Very low probable volumes in this area, would
help slow vehicular traffic.

Background Image Source: Google.com - StreetView

Commonwealth looking W. (at Knightsbridge)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

Shared Lane
Marking

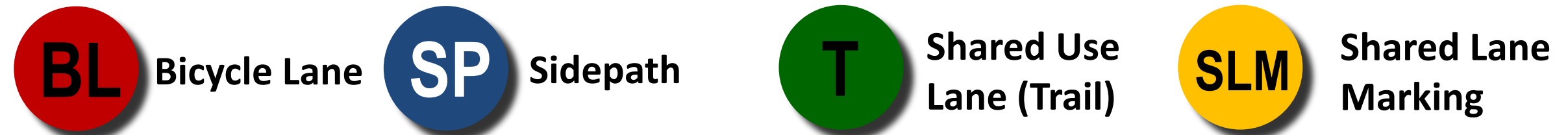
Buffered bike lane option replaces
one lane of vehicular traffic in each
direction.

SP

BBL

Background Image Source: Google.com - StreetView

Commonwealth looking W. (at Aberdeen)



Buffered bike lane option replaces one lane of vehicular traffic in each direction.

Commonwealth looking E. (near Dynasty Place)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

Shared Lane
Marking



Buffered bike lane option replaces
one lane of vehicular traffic in each
direction.

Background Image Source: Google.com - StreetView

Elkins looking N. (south of King's Pass)

**BL**

Bicycle Lane

SP

Sidepath

TShared Use
Lane (Trail)**SLM**Shared Lane
Marking

Note: recommend road diet to 1 lane each direction. Very low probable volumes in this area, would help slow vehicular traffic. Much more cost effective than sidepath. However, consider impact of peak school waiting lines on bike lanes.

SP**BBL**

Buffered bike lane option replaces one lane of vehicular traffic in each direction.

Elkins (S. of Commonwealth, looking South)



BL Bicycle Lane

SP Sidepath

T Shared Use Lane (Trail)

SLM Shared Lane Marking



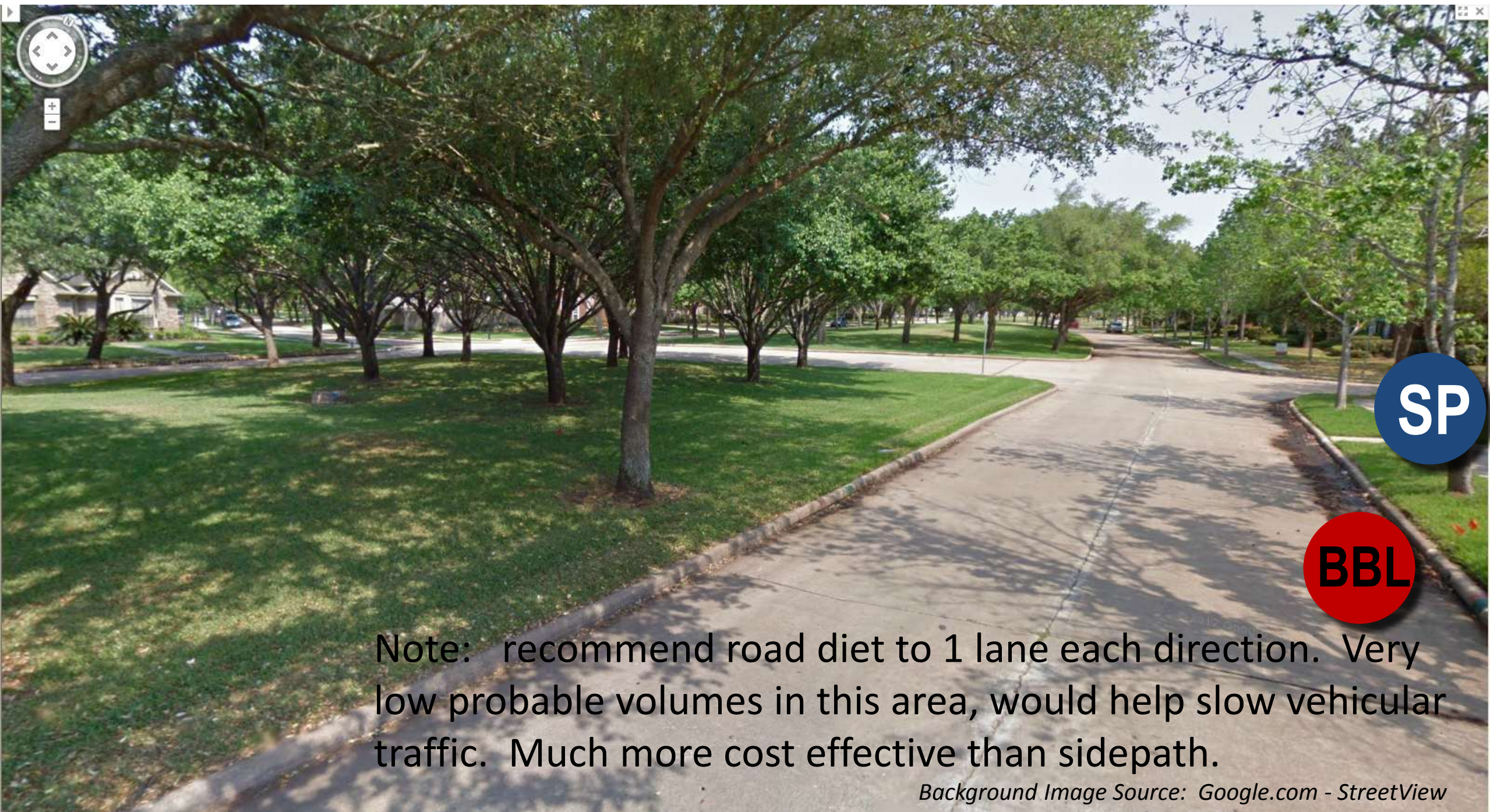
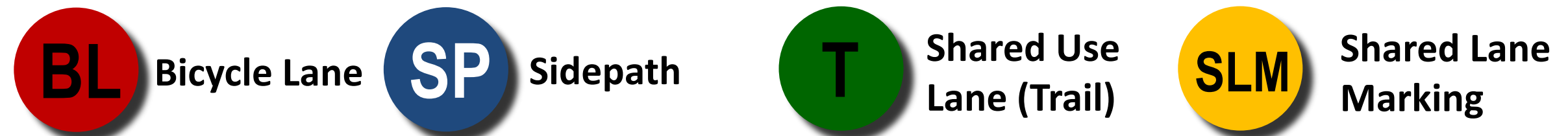
Buffered bike lane option replaces one lane of vehicular traffic in each direction.

BBL

SP

BBL

Lakefield Blvd. (looking North)



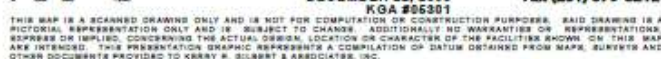
Note: recommend road diet to 1 lane each direction. Very low probable volumes in this area, would help slow vehicular traffic. Much more cost effective than sidepath.

Background Image Source: Google.com - StreetView

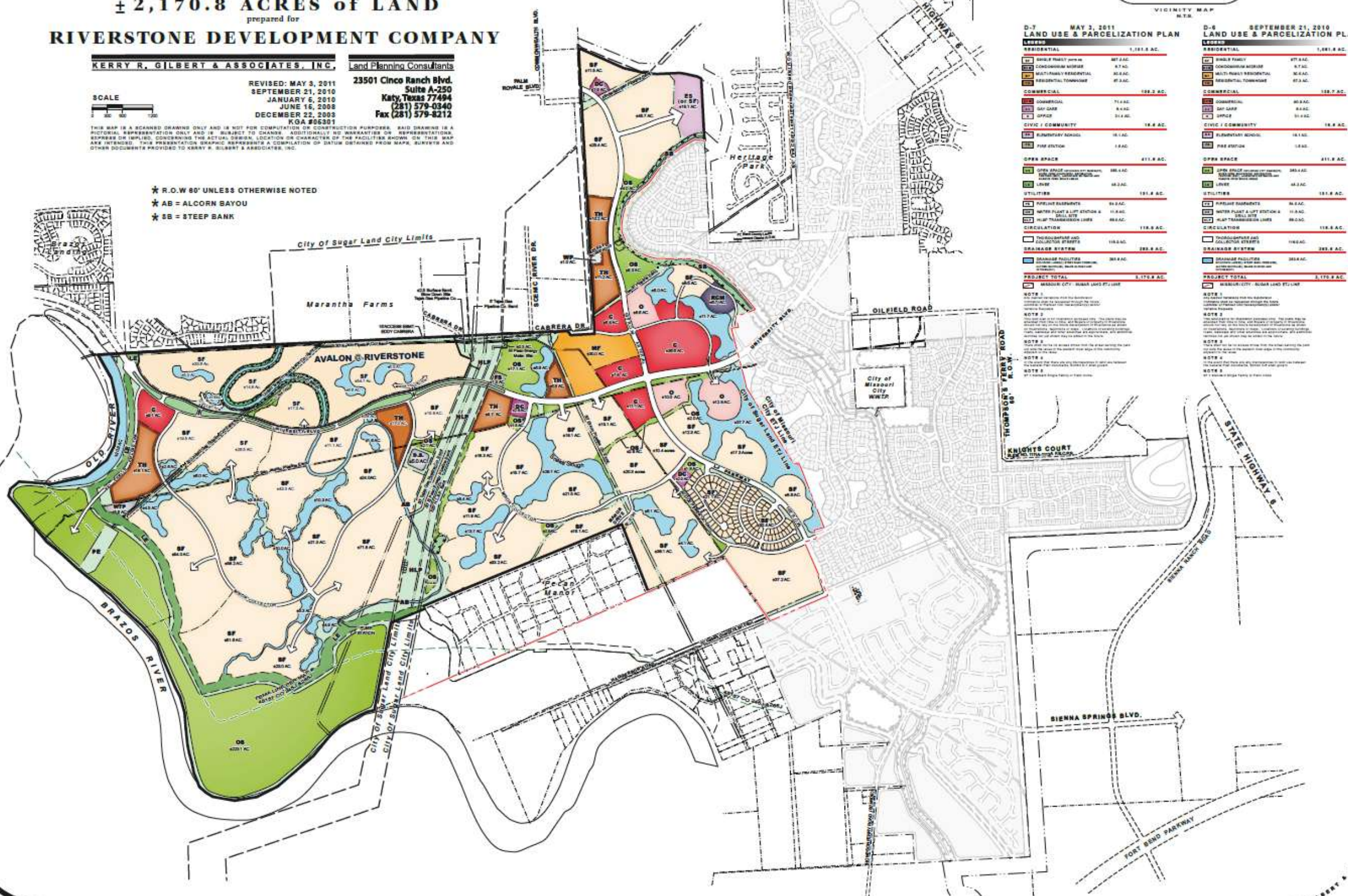
**RIVERSTONE DEVELOPMENT COMPANY**

Land Planning Consultants

**23501 Cinco Ranch Blvd.
Suite A-250
Katy, Texas 77494
(281) 579-0340
Fax (281) 579-8212**



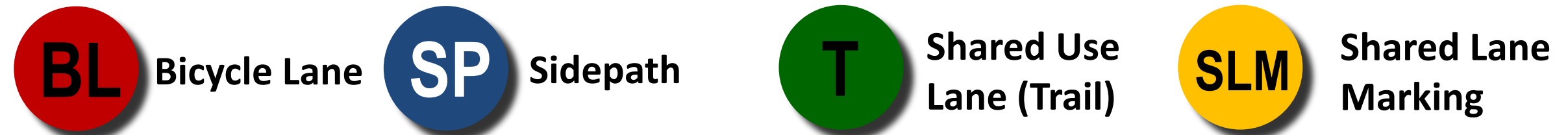
* R.O.W 80' UNLESS OTHERWISE NOTED
* AB = ALCORN BAYOU
* SB = STEEP BANK



1. 2.

CONCLUSIONS

Palm Royale looking West (W. of Commonwealth)

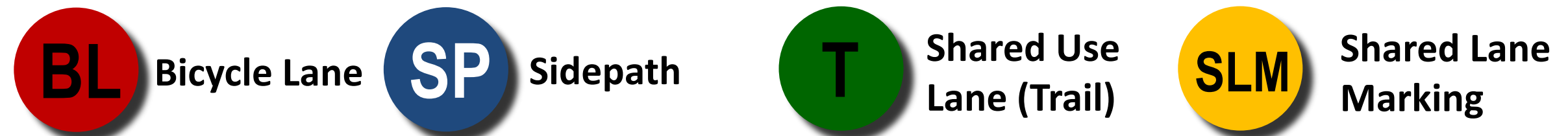


Note: as alternative, consider road diet to 1 lane each direction. Very low probable volumes in this area, would help slow vehicular traffic. Much more cost effective than sidepath. But resident concerns in this area should be evaluated.

Buffered bike lane would remove one vehicular lane in each direction



University (looking North to US 59)



Note: consider parallel sidepath on east side of University, especially with Performing Arts Center to be developed in the area. May be considered to duplicate facility along Ditch H.

Background Image Source: Google.com - StreetView

Winding Brook Dr. (looking East)



BL Bicycle Lane

SP Sidepath

T Shared Use Lane (Trail)

SLM Shared Lane Marking



Background Image Source: Google.com - StreetView



Greatwood Parkway (looking N. near Arborview Dr.)

- BL** Bicycle Lane
- SP** Sidepath
- T** Shared Use Lane (Trail)
- SLM** Shared Lane Marking



Riverbrook Dr. (looking West near Fielding Dr.)

BL Bicycle Lane

SP Sidepath

T Shared Use Lane (Trail)

SLM Shared Lane Marking



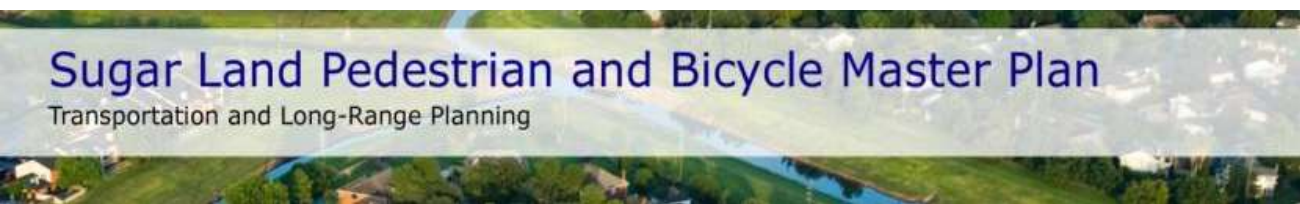
Buffered bike lane would remove one vehicular lane in each direction

BBL

BBL



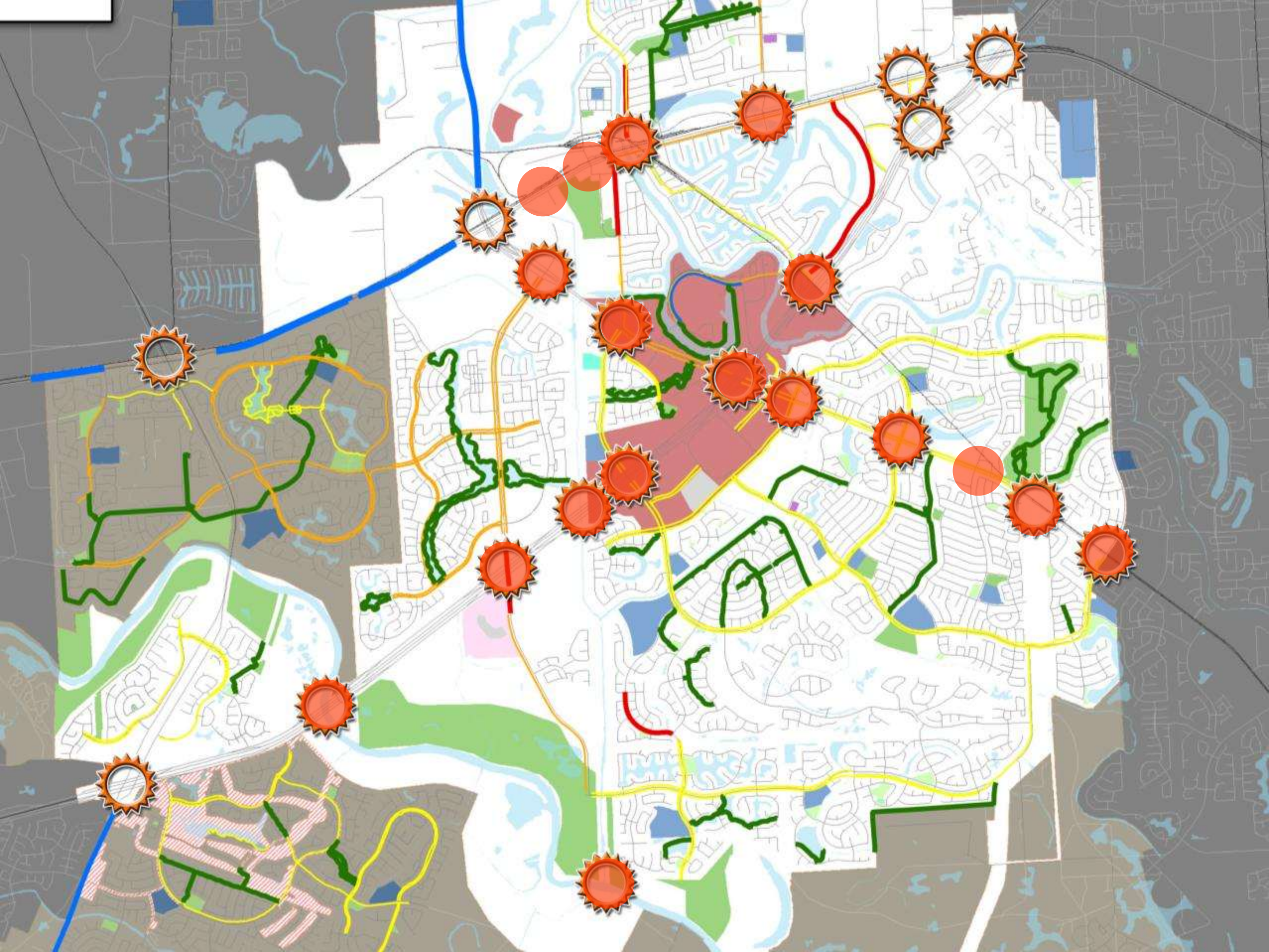
Barrier Discussion



Sugar Land Pedestrian and Bicycle Master Plan

Transportation and Long-Range Planning







MAJOR BARRIERS – US 59



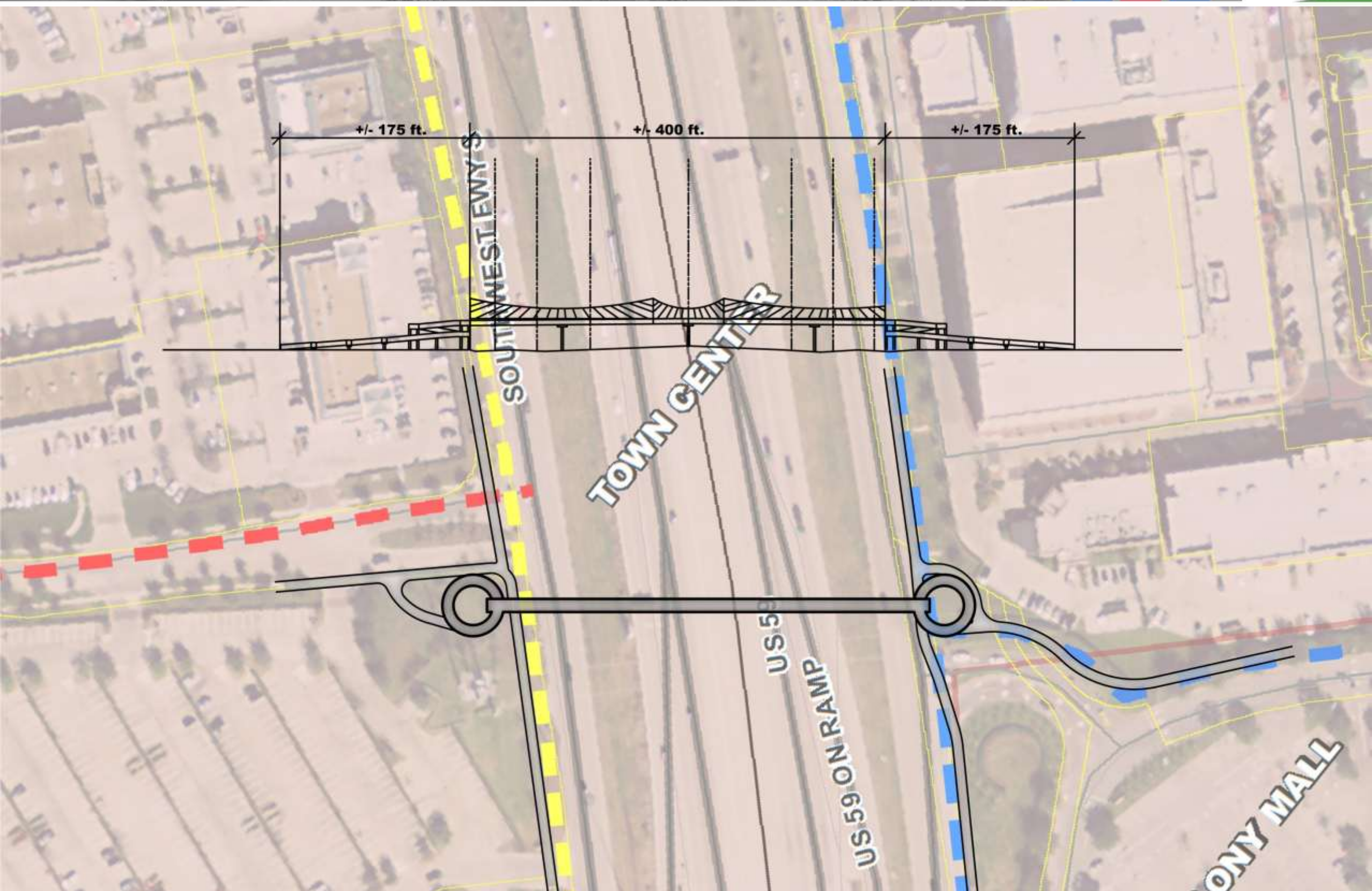
POTENTIAL BARRIER SOLUTIONS



POTENTIAL BARRIER SOLUTIONS



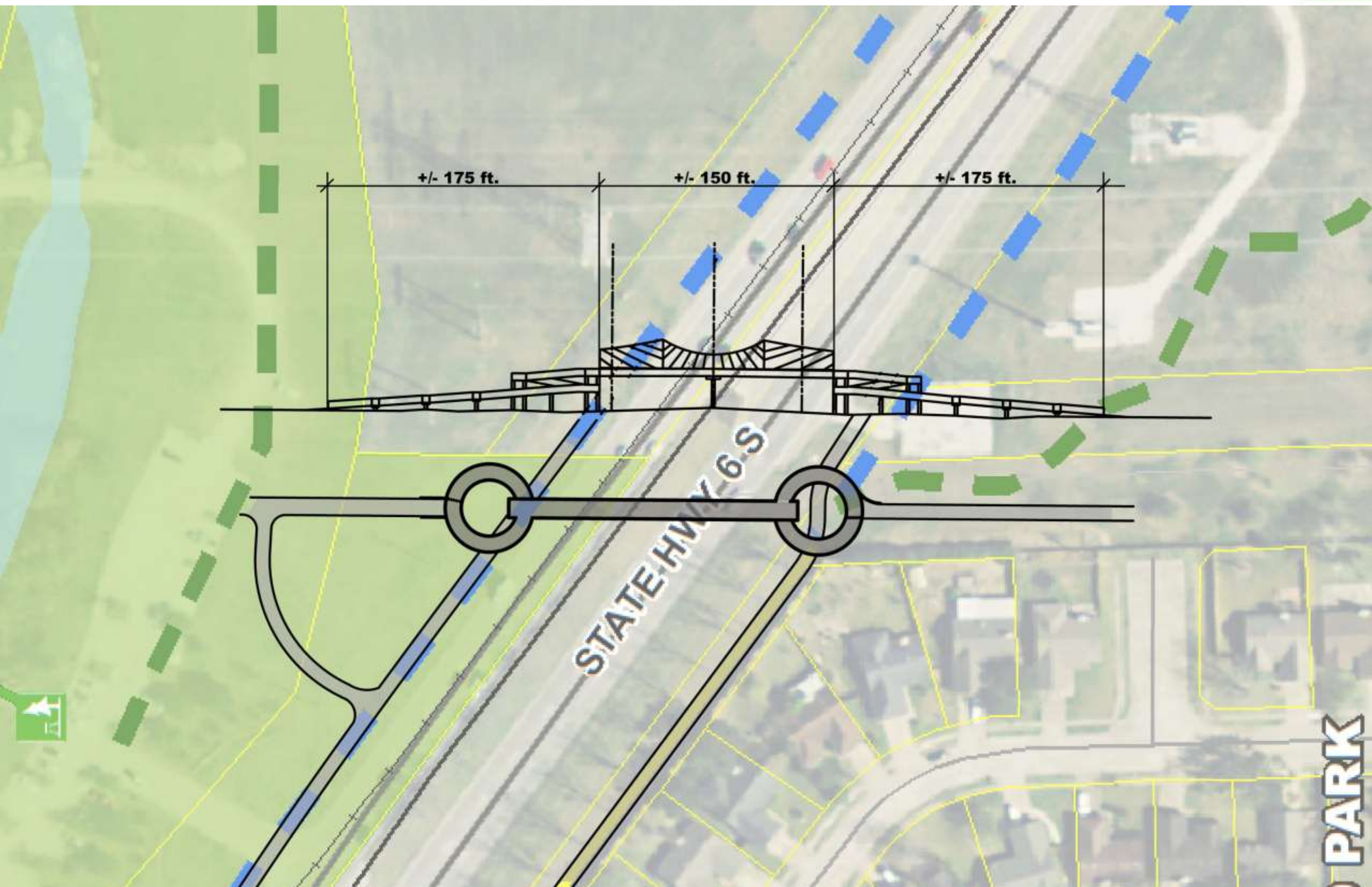
Grade Separated Crossing – US 59



Location of Potential Crossing – Hwy 6



Grade Separated Crossing – Hwy 6



Major Sidepath Crossing – Hwy 90A at Ulrich

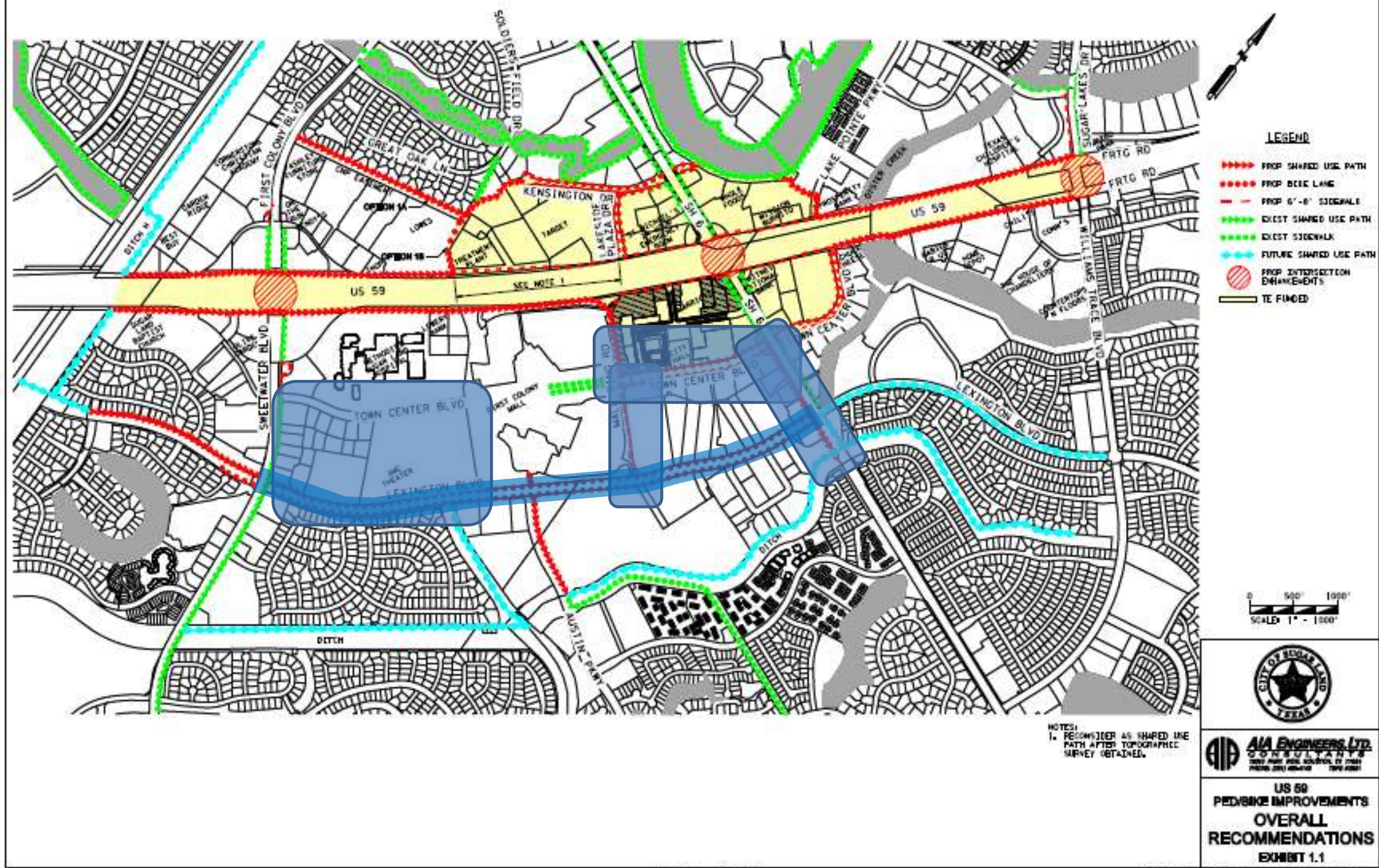




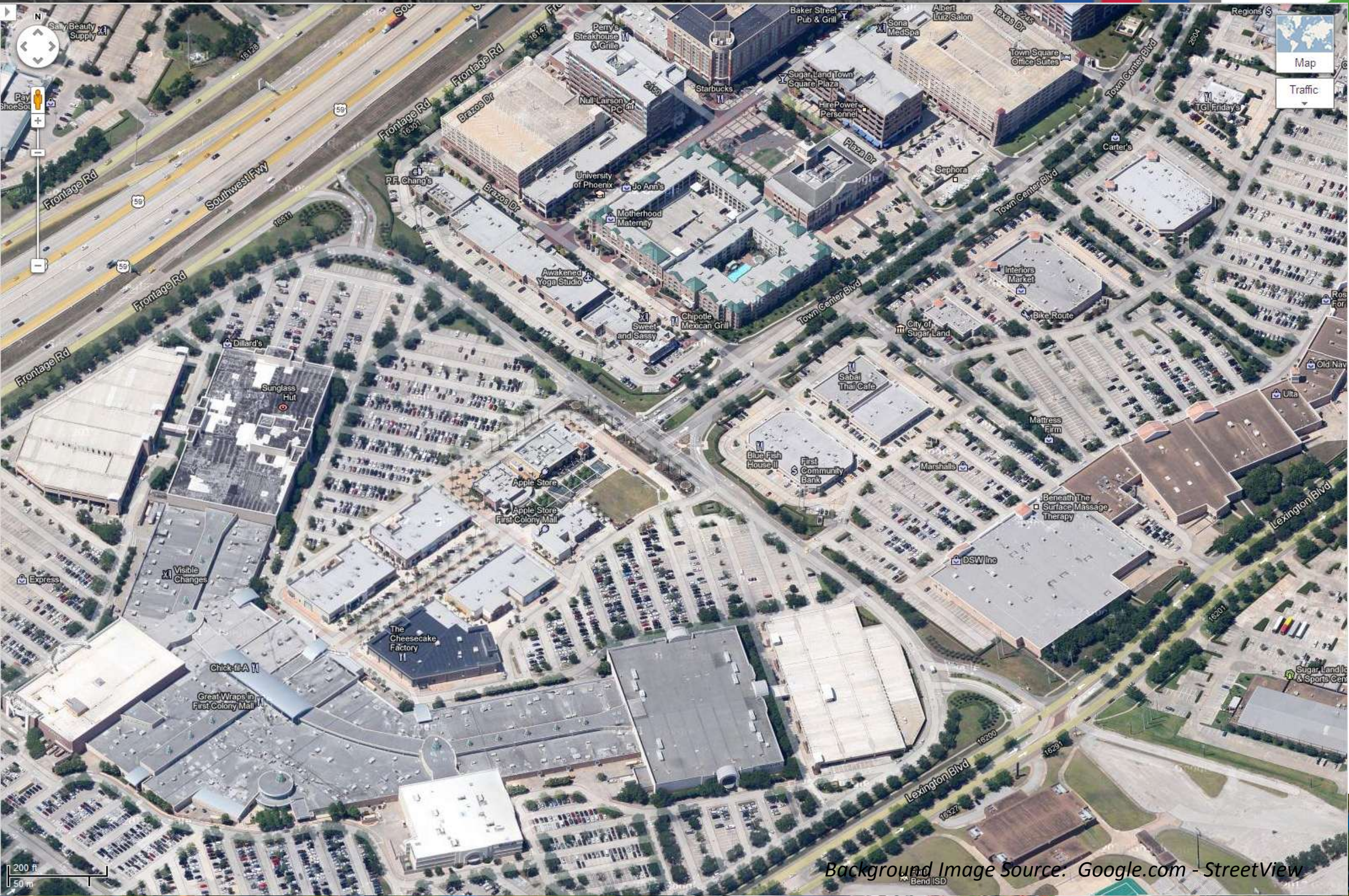
Town Center Area



PER Recommendations – Town Center Ped/Bike Project

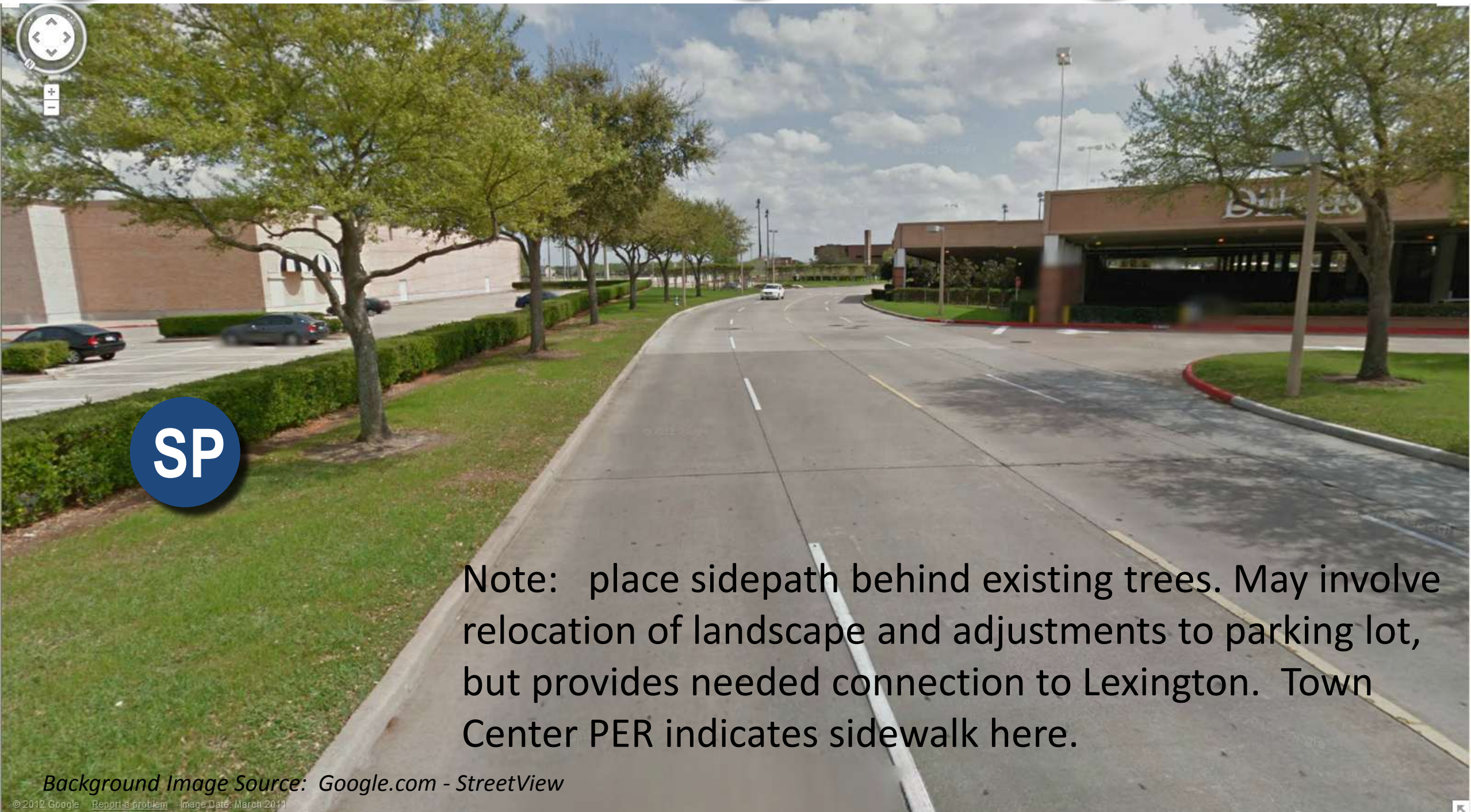


Aerial View – Town Center Blvd and Ring Road



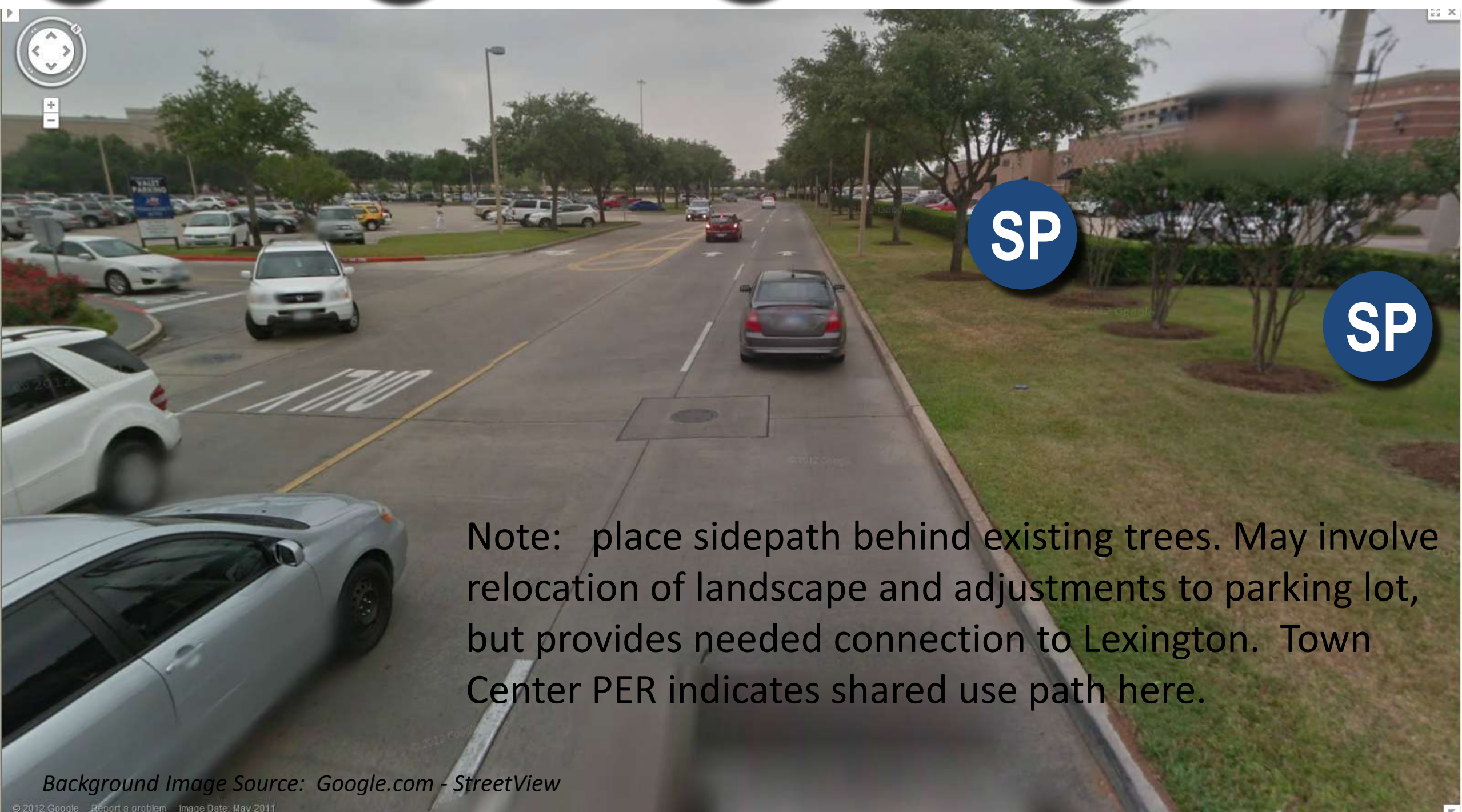
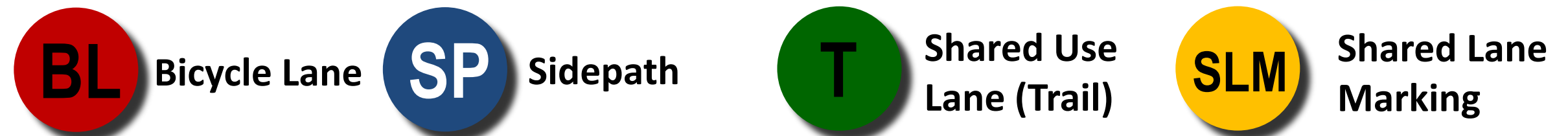
Background Image Source: Google.com - StreetView

Mall Ring Road (looking S. to Lexington)

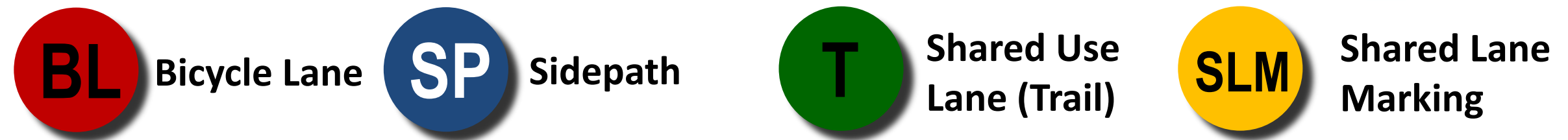


Note: place sidepath behind existing trees. May involve relocation of landscape and adjustments to parking lot, but provides needed connection to Lexington. Town Center PER indicates sidewalk here.

Mall Ring Road (N. of Town Center Blvd. looking to US 59)



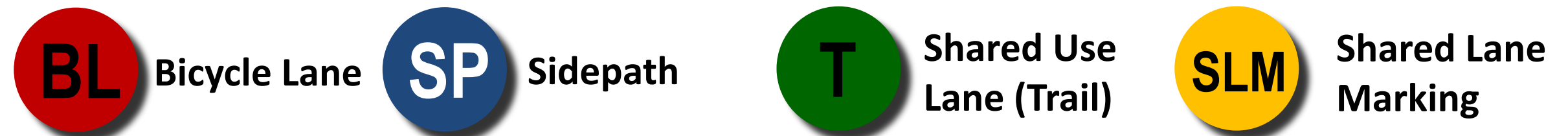
Town Center Blvd. (looking east to Hwy 6 near City Hall)



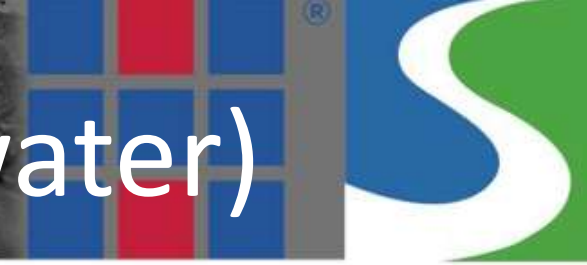
AFTER



Lexington (looking East to Hwy 6)



Lexington (looking E. towards Sweetwater)

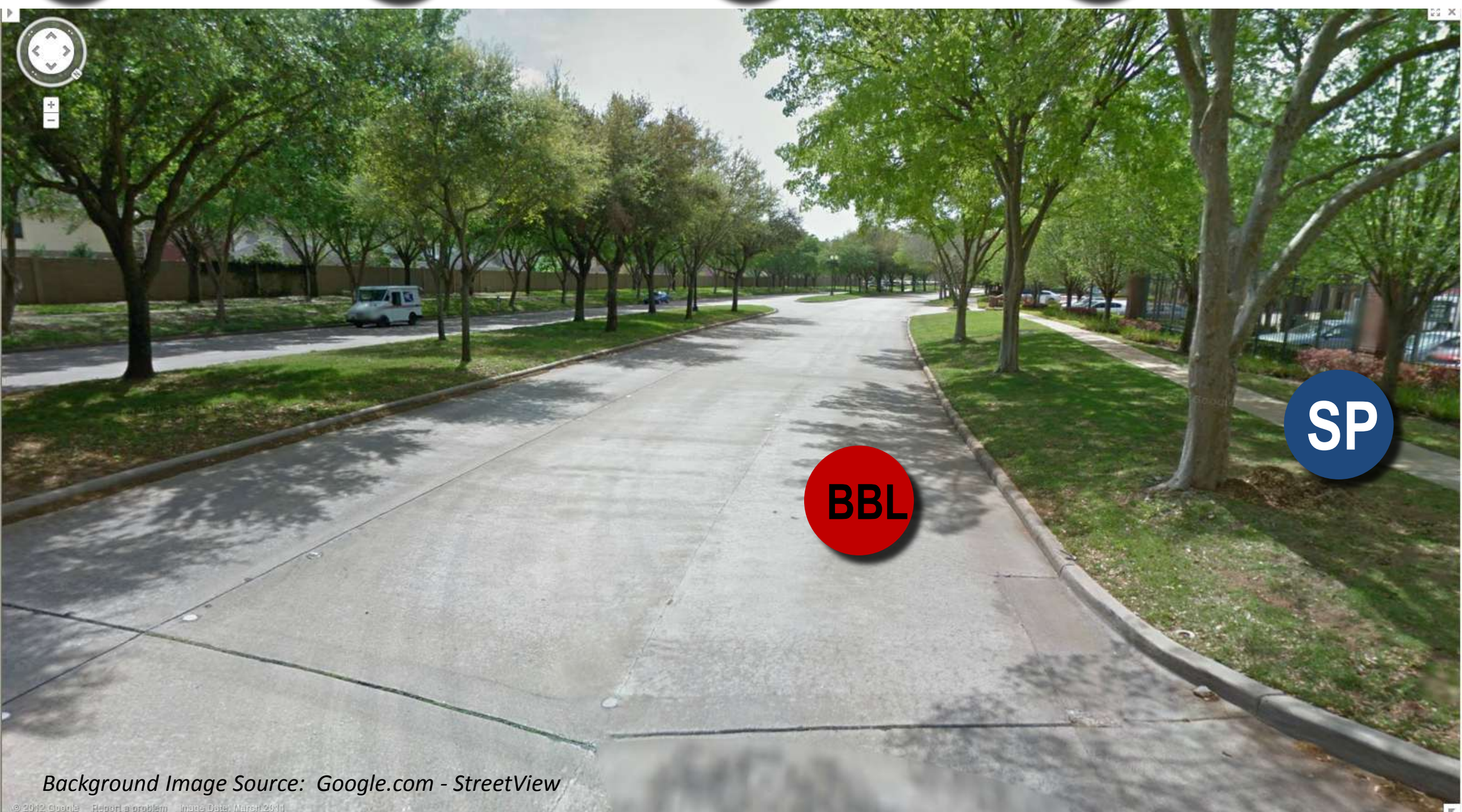


BL Bicycle Lane

SP Sidepath

T Shared Use Lane (Trail)

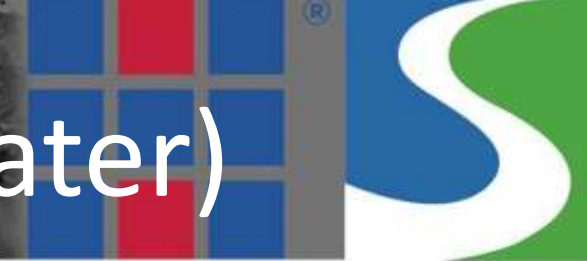
SLM Shared Lane Marking



Background Image Source: Google.com - StreetView

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Lexington (looking West past Sweetwater)



Background Image Source: Google.com - StreetView

Austin Parkway (looking North to Lexington)



BL Bicycle Lane

SP Sidepath

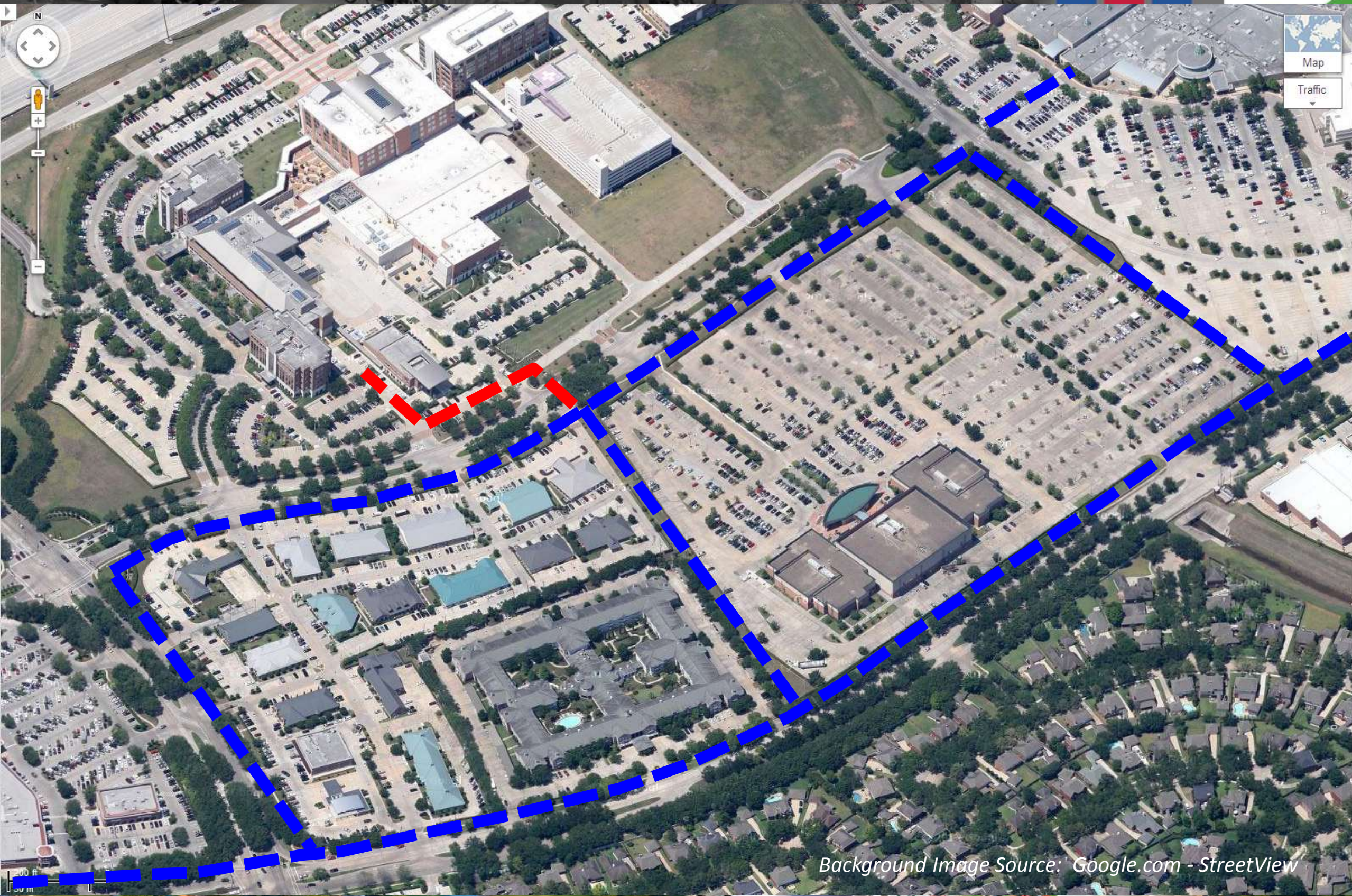
T Shared Use Lane (Trail)

SLM Shared Lane Marking



Background Image Source: Google.com - StreetView

Aerial View – Methodist Hospital/Sweetwater/Lexington Potential Pedestrian / Bicycle Access Route Alternatives



Background Image Source: Google.com - StreetView

Hwy 6 looking S past Town Center Blvd.

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

Shared Lane
Marking

SP ?

First Colony (looking North near Colony Lakes Dr.)

BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

SLM

Shared Lane
Marking

SP

First Colony (looking North near Colony Lakes Dr.)



BL

Bicycle Lane

SP

Sidepath

T

Shared Use
Lane (Trail)

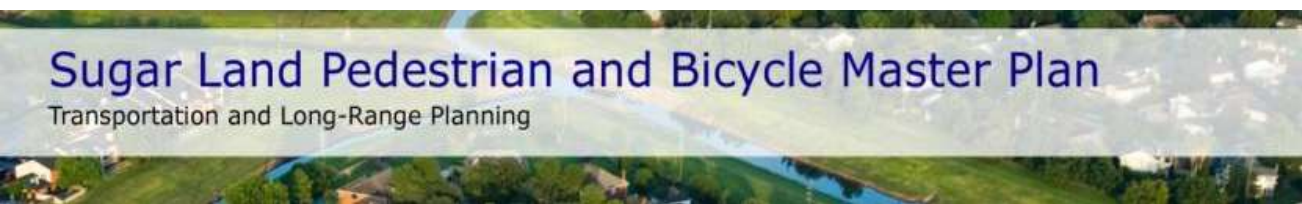
SLM

Shared Lane
Marking

SP



Discussion and Comments



AFTER



AFTER



AFTER



AFTER



Aerial – First Colony Access to Town Center

